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ROYAL COMMISSION OF INQUIRY INTO CERTAIN
DEATHS AT THE HOSPITAL FOR SICK CHILDREN AND
RELATED MATTERS.

Hearing held in Court Room 20
Court House
361 University Avenue
Toronto, Ontario

The Honourable Mr. Justice S.G.M. Grange

Commissioner

P.S.A. Lamek, Q.C.

Counsel

E.A. Cronk

Associate Counsel

Thomas Millar

Administrator

Transcript of evidence
for

July 28th, 1983

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Thursday the 28th day of July,
1983.

- - - -


THE HONOURABLE MR. JUSTICE S.G.M. GRANGE - Commissioner
THOMAS MILLAR - Administrator
MURRAY R. ELLIOT - Registrar

- - - -

APPEARANCES:

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I.J. ROLAND)	for Sick Children
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	Nurses' Association of Ontario
	and 35 Registered Nurses at
	The Hospital for Sick Children

(Cont'd)



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APPEARANCES: (Continued)

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W.W. TOBIAS	Counsel for Mr. & Mrs. Hines, (parents of deceased child Jordan Hines)
F.J. SHANAHAN	Counsel for Mr. & Mrs. Dominic Lombardo (parents of deceased child Stephanie Lombardo); and Heather Dawson (mother of deceased child Amber Dawson)
J. SHINEHOFT	Acting for Lorie Pacsai and Kevin Garnet (parents of deceased child Kevin Pacsai)



INDEX OF WITNESSES

NAME

Page No.

ROWE, (Dr.) Richard Desmond (Resumed)

3039

Direct Examination by Mr. Lamek (Cont'd)

3039

INDEX OF EXHIBITS

No.

Description

Page No.

118 Heart Diagram of Laura Woodcock. 3041

119 Heart Diagram of Kristin Inwood. 3083

120 Heart Diagram of Barbara Gionas. 3122

121 Heart Diagram of Charlon Gardner. 3163

113A Patient Incident Report re Kristin Inwood. 3184

122 Heart Diagram of Allana Miller. 3186

123 Heart Diagram of Justin Cook. 3241



EMT/ak

1
2 ---Upon commencing at 9:15 a.m.

3 THE COMMISSIONER: Yes. Mr. Lamek?

4 MR. LAMEK: Thank you,

5 Mr. Commissioner.

6 Could I have Dr. Rowe, please?

7 DR. RICHARD DESMOND ROWE, Resumed

8 DIRECT EXAMINATION BY MR. LAMEK: (Continued)

9 Q. Good morning, Doctor. We
10 seem to be here a little ahead of the crowd this
11 morning.

12 Doctor, before we go on to the next
13 child you, through Mr. Ortved, provided to us
14 yesterday and we marked as exhibits two memoranda
concerning Kevin Pacsai.

15 Exhibit 109 was a one page memorandum
16 which you told us was from Dr. Carver. Can you
17 remind me again, please, who was Dr. Carver?

18 A. Dr. Carver is the head of
19 the Department of Pediatrics at the Hospital.

20 Q. In the final paragraph of
the memorandum he says:

21 "I have asked Dr. Rowe to thoroughly
22 investigate the matter and specifically
23 determine whether the child received
24 the dose prescribed or whether there
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"was an error in the amount given to the patient due to any transcription error.

I have also asked Dr. Rowe to investigate all the circumstances concerning this patient and to write me a report with his findings. I have spoken to Dr. Stuart MacLeod, and he has agreed to help Dr. Rowe in looking into this matter."

Did you in fact provide Dr. Carver with the written report on this matter?

A. Dr. Fowler provided that report for me.

Q. And was that the second of the two exhibits we marked yesterday?

A. It is.

Q. Thank you.

Dr. Rowe, rather than ending with Laura Woodcock and make it look like we had indeed gone back to the beginning again, it seemed to me last night that it made sense to start today with Laura Woodcock.

A. Very well.

Q. Now, Dr. Rowe, Laura Woodcock



1
2 was born on June 12, 1980. She was admitted to the
3 Hospital on June 26th and she died at 9:40 in the
4 morning of June 30th, 1980.

5 A. Yes.

6 Q. You have behind you what I
7 understand to be a diagram of the heart of that
8 child. Can you tell me first whether it shows with
9 some reasonable diagrammatic accuracy the state of
10 the heart?

11 A. I think it does.

12 MR. LAMEK: May that be the next
13 exhibit?

14 THE REGISTRAR: 118.

15 ---EXHIBIT NO. 118: Heart Diagram of Laura
16 Woodcock.

17 MR. LAMEK: Q. Would you, Dr. Rowe,
18 please, describe the anatomy that is shown on that
19 diagram?

20 A. Yes. This baby had minor
21 defect of the heart in terms of structural
22 abnormality. There was a small ventricular septal
23 defect that was not actually recognized during life.
24 There was thickening of the pulmonary valve which
25 was recognized during life, and the clinical diagnosis
was pulmonary valve stenosis as far as heart defects



1
2 were concerned, but at autopsy there was in addition
3 a small ventricular defect.

4 The ductus arteriosus was closed.
5 I think this is meant to represent a patent foramen
6 ovale, and the course of the circulation would be
7 very close to normal.

8 That is the blood coming into the
9 right heart would go down into the right ventricle
10 and be pumped out into the pulmonary arteries with
11 some turbulence there because of the mildly stenotic
12 pulmonary valve or thickening of the leaflets;
13 returned to the left side in the normal fashion and
14 would be pumped out into the aorta.

15 The only additional anomaly or
16 abnormality which is shown here is not a congenital
17 abnormality, and it is meant to indicate that in one
18 of the papillary muscles of the left ventricle at
19 autopsy there was found to be a subendocardial
20 infarct, and that is what this little red dot is
21 supposed to mean, that there was death of muscle in
22 one of the papillary muscles.

23 The other information that was
24 obtained at autopsy was not relevant to the heart,
25 but the cardiac condition was a mild one, with a
small ventricular defect, mild pulmonary stenosis,



1
2 and the only area of major interest or concern I
3 think would be the infarct in the papillary muscle.

4 Q. Thank you.

5 Laura Woodcock had come to the
6 Hospital for Sick Children from the Oshawa General
7 Hospital I believe?

8 A. Yes.

9 Q. The patient's history as
10 taken at that hospital is set out in the first few
11 pages of the chart, pages 3 and 4 and so on, but
12 she had been investigated there, had she not, for
13 failure to thrive, for jaundice and for tachypnea.

14 A. Yes.

15 Q. And at page 15 of the chart
16 it appears that while she was at the Oshawa General
17 Hospital, was admitted as a patient there, episodes
18 of bradycardia had been noted, had they not?

19 A. Yes, they were.

20 Q. And she was on a cardiac
21 monitor there?

22 A. Yes.

23 Q. Now she came to the Hospital
24 for Sick Children on June the 26th, and again perhaps
25 we can refer to the discharge note at page 35 for a
summary of her course in the Hospital.



1
2
3 She was sent to Sick Children's for
4 investigation of what was considered to be congestive
5 heart failure and hyperbilirubinemia. It records
6 poor feeder, losing weight, failure to thrive,
7 jaundice. No history of fever or vomiting and
8 the physical findings at Oshawa General suggests
9 congenital heart disease with heart failure, and
10 she came to Hospital for Sick Children.

11 She had lab work done.

12 It is noted at the bottom of the
13 page that the total bilirubin was markedly elevated
14 at 20.4 with a direct of 10.4.

15 Could you explain (a) what the
16 significance of the hyperbilirubemia is and then
17 the significance of those measurements?

18 A. Well, I'm not a liver expert
19 as you know.

20 Q. Yes.

21 A. But the level of total
22 bilirubin - the level of bilirubin in a newborn
23 infant can rise because of the difficulty of the
24 liver in dealing with the excretion of bilirubin
25 immediately after birth, but when it rises above a
level, certainly about 10 or 11, people begin to
get worried, and at 20 you would be very concerned



1
2 at this because the total level of bilirubin at that
3 point can create the risk of brain damage and other
4 problems of that sort.

5 The total bilirubin is divided into
6 direct and indirect forms in this way that there is
7 some judgment to^{be}made as to whether that is due to
8 the destruction of red blood corpuscles and the
9 levels of bilirubin from that or from some direct
10 obstruction in the liver itself. It is a complex
11 story but well known to neonatologists and pediatri-
cians.

12 Q. Thank you. In the next
13 to last paragraph on the page there are recorded
14 findings as to matters which may have been of more
15 direct interest to the cardiologist. There was
16 indeed it says quiet tachypnea with no grunting or
17 indrawing. There was a systolic ejection murmur
noted.

18 A. Yes.

19 Q. The spleen was felt to be
20 2 to 3 centimetres enlarged, the liver span was
21 7 centimetres and 4 centimetres below the right
22 costal margin.

23 Are those two findings with respect
24 to the spleen and the liver indicative or suggestive
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of heart failure?

A. Not in the presence of
marked jaundice and hyperbilirubinemia because the
liver can enlarge for that reason.

Q. The enlargement is ambiguous,
is it?

A. Yes.

Q. It may be attributable to
failure; it may be attributable to the liver problem?

A. Yes.

Q. Which the child obviously has?

A. Yes.

Q. And investigations were
directed to the hyperbilirubinemia. It is recorded
the child appeared to do well until the early morning
hours of June 30th when vomiting was noted. At
one point the child's apex became irregular, BP
decreased markedly.



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Seven o'clock in the morning the child was seen by the Cardiac service, found to have an irregular apex, child was lethargic and had recent emesis, atropine was given IV, seemed to improve the apex and P.B. but a cardiac arrest occurred at 9:03. Found by the arrest team having CPR without any heart beat, without any blood pressure and despite intravenous and intracardiac administration medication, couldn't restore or resuscitate - the child couldn't restore cardiac output and the child therefore was pronounced dead at 0940. Cause of death in this discharge note is identified as arrhythmia, query sepsis.

Is it appropriate, Doctor, to identify arrhythmia as the cause of death or does one need to try to determine what caused the arrhythmia?

A. Yes, you need to try to determine the origin.

Q. The arrhythmia is more likely to be a symptom of something else, is it not?

A. Yes, indeed.

Q. Yes. And the report concludes that the Coroner's Office is notified by Dr. Contreras due to the sudden, unexpected demise of this child.

We've come across those words in some



B.2

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of these charts before, Doctor. Let me ask you here,
do you agree that the death of Laura Woodcock was
sudden?

4

5

A. Yes.

6

Q. Do you agree it was unexpected?

7

A. I think it was unexpected on
the basis of the evidence we had at that time.

8

9

10

Q. Has information come to light
since the date of the child's death which leads you
to say it perhaps was not unexpected? Had you known
then what you know now, in other words?

11

12

A. Yes, I think perhaps so.

13

Q. You would have regarded the
death as not unexpected?

14

15

A. Well, I would have hoped that
it wouldn't have happened, but I think that the post
mortem, in my view, accounts for why the baby died.

16

17

Q. And I take it when you say
that ---

18

19

A. But I didn't think that at the
time. I didn't think when the baby died, I didn't
think we had a good cause. In fact, I wrote a note
to that effect.

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Q. Yes, I want to come to that note.

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A. Yes.

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Q And it was something of a mystery at the time as to the real cause of this child's death, was it not?

A Yes.

Q And I take it that what was discovered at post mortem which enables you now to say that perhaps the death was not so surprising and unexpected as it appears, what was found there was not in particular related to the cardiac situation but to other things, or are you talking about cardiac findings?

A Maybe a combination, but principally other things.

Q Yes. Well, we will come to those. Subject then to what was discovered at autopsy, is the discharge report, as we have skimmed through it just now, a reasonable summary of the child's course in your view?

A Yes, I think so.

Q Right. Doctor, let me ask you the question that I always ask you at this stage of the review of a case. Can you tell me please, looking at the whole of the chart, including autopsy reports, what in your judgment are the significant events or observations in the Hospital record that assist in an understanding of the death of Laura Woodcock and the time and the manner of her dying?



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A. Yes. Well, the patient was diagnosed in the referring hospital as having congenital heart disease with heart failure and the part of the emphasis there was that the mother of this child had a congenital abnormality of the heart as well. So that of course there is a heightened suspicion of the possibility of congenital heart disease under these circumstances.

There was as well I think a difficult delivery in which the baby had to be resuscitated after delivery.

I think further along at the time of the autopsy there was some features of examination in the brain and perhaps also in the papillary muscle that raised the question of that sort of effect from those events at the time of delivery, that is, that the baby must have had an hypoxic stress of some order at that time because, when you have hypoxia at the time of delivery, then there is the opportunity for some degree of damage to be made to the brain and to the heart muscle.

THE COMMISSIONER: I'm sorry, I know what it is but I have forgotten, what is hypoxia?

THE WITNESS: Shortage of oxygen.

THE COMMISSIONER: Right.



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THE WITNESS: Lack of oxygen.

So, those things are important in my view in the general consideration.

The feeling was in Oshawa that the heart was large so that with the liver size and the uncertainty I suppose of whether that was directly heart failure or not, they had to treat the baby as though it were and digoxin was given.

Now, the total dose calculates out to be about 30 micrograms per kilogram of body weight, and that is an appropriate dose. But because of the slowing of rate that occurred during that time, you will notice that it was quite substantial and one would not expect that with that sort of dose of digoxin there would be a major effect on the heart in any way because the doses seemed to be all right. So, there must have been some other factor operating, and I suppose that one of the things in retrospect there was that this baby had what we call transient myocardial ischemia, which is a condition which is associated with this sort of infarct diffusely in the heart and is related to stressful deliveries.

So that it may have been, as we have found with that condition in other babies, that if you give ordinary doses of digoxin, they seem to react



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like a cardiomyopathy. They seem to be a little more sensitive in some way to digoxin.

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Q Forgive me for interrupting

5

you. You have described that condition, the cardiomyopathy - I'm sorry, the heart muscle lack of blood is transient. In what way is it transient?

6

7

A Well, it is probably a misnomer

8

but in babies when this condition occurs, it is a fairly frequent situation after birth. It's not been long discovered in the sense that it has only

10

11

recently been worked out, but it is fairly common.

12

The babies often look very sick and sometimes don't

13

look very sick at all but often look quite sick, at

14

least for a short time, and then they seem to recover.

15

Q Or it appears to resolve itself?

16

A It appears to resolve and the

17

thought there is that as the baby grows the small

18

piece of dead muscle becomes insignificant compared

19

to all the other muscle. But there is some concern

20

with that sort of heart, not only with the response

21

to digoxin at the beginning, but with the possibility

22

that scarring may initiate ectopic focus of heart

23

rate and beats and so on.

24

So, that is all that I'm referring to

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there. We had some clinical information in favour of



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that that was relating to the electrocardiogram and suggested some ischemic damage to the left ventricle, but it was not extensive in the baby, at that time at any rate, it was not having major problems of that sort, other than this odd reaction to the digoxin in Ottawa.

Because of that rate slowing, they properly discontinued the drug I think, or at least it was not given any further, and we agreed with that assessment.

So, when the baby came at the beginning, I thought the signs - I saw that baby and I thought that the signs were those of mild to moderate severity pulmonary stenosis and it seemed to me unlikely that the cause of the symptoms were the heart disease. The baby was obviously very jaundiced and that seemed likely the problem that had to be addressed.

So, my colleagues on the floor undertook an extensive investigation, during which time the baby appeared to be well. There was no concern on their part about the heart, but there was obvious concern about the liver.



C/BN/ak

1
2 Although we are not liver experts, we got liver
3 experts to have a look at this baby and in fact, the
4 plan for this baby was to be transferred to the
5 Liver Services as soon as practical after these
6 initial investigations and consultations had been
7 done and to be looked at from the point of view of
8 what the cause of the liver disease was.

9 At that stage, it was not clear
10 whether there was an obstruction of a congenital
11 nature in the liver, whether it was an infection or
12 what, but the baby was being treated in an appropriate
13 way under the guidance of the liver therapist or
14 liver people, and the only odd thing about this
15 course during that investigation other than the
16 final event was the fact that on the chest x-ray
17 taken during the Hospital stay -- I do not know what
18 date that was -- there were some interstitial
19 changes in the lung. That is, it appeared rather
20 strange, and people were not quite sure what that
21 meant, whether that was fluid or edema or whether it
22 was pneumonia.

23 I think that there was some comment
24 on that. I cannot remember on what page.

25 Q. At page 33 of the autopsy
report, Doctor, first on page 32, the reference is,



1
2 a little over half way down the page:

3 "June 27, 1980: Chest x-ray showed
4 interstitial fluids and a lumbar
5 puncture was clear with slight
6 xanthochromia."

7 A. Yes, but I think there was
8 a note somewhere in there from one of the residents
9 about the x-ray.

10 Q. But at page 33, it is
11 recorded:

12 "At necropsy, the lungs appeared
13 moderately congested and microscopic
14 examination revealed an extensive
15 pneumonia with foamy macrophages..."

16 A. Yes. But it was a cause of
17 some puzzlement for the clinicians at that time as
18 to exactly what that was going on there, because
19 the baby had not been greatly distressed by rapid
20 breathing or anything like that as far as I can
21 recall.

22 So that, I think, is important in
23 view of those autopsy findings. Then the last
24 episode is -- I am sure you want to go into that.

25 Q. Yes.

A. And I think that the autopsy



1
2
3 showed that there was not any definite congenital
4 anomaly of the liver but a condition called cholestasis
5 which is just severe congestion in the liver. I
6 think the liver people, if you want to know more
7 about that, you will have to ask them because I
8 am certainly not qualified to talk about that a lot,
9 but it is the sort of thing that is sometimes only
10 discovered at autopsy as to the precise reason for
11 the liver problem.

12 During life, there is always a lot
13 of concern about whether it is viral hepatitis
14 or whether it is obstructive congenital jaundice.

15 The mildness of the congenital
16 anomalies of the heart itself were confirmed with
17 pulmonary valve leaflet thickening in the ventricular
18 defective small size. There were minimal series of
19 fusions in the cavities which -- I am not sure
20 what the reason for that is, and there was a minor
21 little blood blister on the anterior leaflet of the
22 mitral valve, but I do not think that is of any
23 importance.

24 Q. The pathologist suggested that
25 that was one of the things that had occurred in the
course of the terminal events, did he not?

A. Maybe, yes. So that the
main findings in the autopsy were the pneumonia,



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3 which I thought was the significant contribution,
4 the fact that there had been some previous hypoxia
5 and that there was an infarct of the papillary
6 muscle which might conceivably have attributed to the
7 arrhythmia, but certainly the congenital heart
8 disease itself was not sufficient to account for
9 death.

10 Q. Indeed, Doctor, on the
11 question of the infarct of the papillary muscle,
12 on page 33 of the chart, I am not sure that I see
13 any reference to that there, do I?

14 A. Well, about four lines on
15 page 33 from the top, "...a small old subendocardial
16 left ventricular myocardial infarction".

17 Q. Oh yes, I have it, thank you.

18 A. It is not large enough to
19 cause damage to the function of the heart as far
20 as the pump is concerned, but it might be a factor
21 in initiating a rhythm disturbance.

22 Q. So far as the pathologist
23 was concerned, towards the end of his report, the
24 second last sentence, he says:

25 "The exact cause of the sudden, cardio-
respiratory arrest is uncertain."
And this in his final autopsy report, in the light



1
2 of the findings he has made on autopsy. Did you
3 share that view having seen the final autopsy report?

4 A. Well, I would have thought
5 the pneumonia was enough to account in a child who
6 had a major hyperbilirubinemia to account for the
7 arrest, and perhaps in conjunction with dysrhythmia
8 from the scar.

9 Q. You have told us, Doctor,
10 that this baby was digitalized at Oshawa General
Hospital?

11 A. Yes.

12 Q. And the administration of
13 digoxin had been discontinued there?

14 A. I am not sure whether it was
15 there or we discontinued it, but I think they
16 discontinued it there.

17 Q. Yes, it is page 38 of the
18 chart, I think.

19 A. Yes.

20 Q. Which is the history I
21 assume taken at the time of admission of the child
22 at the Sick Children's Hospital. Towards the
bottom of the page:

23 " - seen in Oshawa - large heart in
24 x-ray and murmur
25



1
2
3 " - digitalized - some improvement
4 - last night - heart rate 40, dig
5 discontinued".

6 A. Yes.

7 Q. Now, if that refers to a
8 pre-admission time, as I suspect it does ---

9 A. Yes.

10 Q. --- on the history-taking
11 note, it seems that the digoxin administration was
12 discontinued at Oshawa General, does it not?

13 A. Yes.

14 Q. Was the administration of
15 digoxin resumed at any time after this child's
16 arrival at Sick Children's Hospital?

17 A. I do not believe it was.

18 Q. I did not see any note of
19 that in the file, Doctor. I wondered if you had?

20 A. No, my admitting consultation
21 report says it is mild disease. I would not have
22 prescribed it, nor would I have suggested to anybody
23 else to prescribe it. So I do not believe it was.

24 Q. The note on page 41 of the
25 chart, in what is called the data base, the middle
of the page, not presently in congestive heart
failure.



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3 Doctor, I do not think we need to
4 go through the progress notes at length and in any
5 detail, but is there anything in the course that
6 is disclosed in the notes, and I know the significance
7 that you attach to the autopsy findings, but is
8 there anything in the course as disclosed from the
9 progress notes which would have lead you to think
10 that this child, on June 29, 30 was at risk of
11 imminent death?

12 A . No. The only thing in the
13 progress notes that I guess demonstrates the
14 dilemma is that the x-ray is referred to as showing
15 pulmonary edema, so that we really did not have a
16 good explanation for why that would be. But I agree
17 that during the notes there is nothing very convincing
18 to suggest you had a raging pneumonia.

19 Q. Is it Dr. Duncan's query on
20 page 43, Dr. Rowe, at the bottom of the page:

21 "Chest x-ray today

22 - interstitial fluid pattern

23 ? fluid

24 ? pneumonia

25 - she clinically is not in CHF

Why?? does chest x-ray look like this".

A. Yes.



1

2

Q. That is Dr. Duncan, is it?

3

A. I am not sure that -- not

4

Duncan. I think it is Dunn. I am not sure.

5

Q. You do not recognize the

6

signature?

7

A. It is not Walter Duncan,

8

that I know.

9

Q. Okay, thank you. I did not

10

know who that was.

11

A. I think it looks like the

12

resident.

13

Q. But I take it that is the

14

note indicating the puzzlement to which you referred
earlier?

15

A. Yes, and I think that just

16

raises some concerns, I think, about that issue in
my mind.

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Q. Could we, Dr. Rowe, go to that part of the chart dealing with the arrest and the terminal events. Starting please at the bottom of page 48. I must tell you, Doctor, I don't seem able to find here the note for the day shift on June 29. It does appear that the night or early part of June 30 is reasonably well documented with hourly observations.

A. Are those on the next page, do you think?

Q. I don't think so. I think that is a further copy of this page and the only reason there are two copies is that there has been a piece of paper clipped over page 49 that obscured part of it.

Starting at 3 o'clock in the morning of June 30th the first observation is one of emesis of a large amount of formula.

Had there been anything of a history of vomiting in this child? I had not particularly noticed that on my look through the chart.

A. I don't think so, but I can't be absolutely sure.

Q. Well, at page 44, in the liver service note on the 27th of March, two-thirds of the way down the page, "no history of fever or vomiting" appears to be recorded there.



D.2

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A. Well, they would be looking very carefully at that.

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Q But at 3 o'clock in the morning on June 30th the child vomited a large amount of formula.

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Monitor reading was irregular and the heart rate following that emesis, and rhythm strip was taken. The other vital signs were stable; apex slightly irregular I take it for 10 minutes. Regular rate returned following the incident when the child settled down and the team leader was informed about that.

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Turning over two pages to page 50, Doctor; an hour later at 4 o'clock in the morning irregular apex at 90.

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19

Is 90 an appropriate resting rate for a child of this age?

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A. Well, it is if they are jaundiced; if they are very deeply jaundiced the rate is slower.

Q I see. It is certainly recorded the child is lethargic. No respiratory difficulty is noted.

Two hours later at 6 o'clock in the morning blood pressure has dropped. Heart rate at 100 and irregular.



D.3

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Emesis twice, small amounts, clear mucus. The child was suctioned. Team leader notified of that. Child remains lethargic.

Doctor, what is the genesis - forgive me, I didn't mean to make a bad rhyme - what is the genesis of emesis? How does emesis come about? What causes a child to vomit?

What mechanically happens or neurologically happens?

A. There may be some local reasons in the stomach for that.

Q. Yes.

A. Or there may be some general reasons in which there is central vomiting. So there are local possibilities of irritation or pressure or irritation in the stomach itself, and there are central reasons. That is from the brain itself.

Q. Yes. Now to the extent that we know that vomiting is one of the symptoms of digoxin toxicity, is that symptom produced by digoxin's effect upon the central nervous system rather than directly or mechanically upon the stomach?

A. I think it is.

Q. Two episodes in any event at or around 6 o'clock of emesis, small amounts of clear mucus.



D.4

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At 7 o'clock the blood pressure is
down again. Dr. Schaffer was there.

4

A. Right.

5

6

Q. The apex was down to 86 and
irregular. The child is very lethargic, and once
again, emesis of small amount of mucus.

7

8

At 8 o'clock blood work, blood gases
and so on.

9

10

8:05 atropine given intravenously.
The apex is 60 at that time.

11

12

At 8:10 the apex is up to 105, and
at 8:15 blood pressure seems to be up again. The
child remains very lethargic.

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Now the note at 7:30 seems to cut
into the middle of that sequence; records that the
child is looking lethargic and vomiting and had an
irregular pulse. Lethargic; chest was clear, and what
is that, quiet precordium?

18

A. I think so.

(2)

19

20

21

Q. Yes. The liver showing
4 centimetres, but it is recorded by ECG that there
is a complete heart block. AV dissociation.
Ventricle rate 70 to 75.

22

23

Do you attach any significance to that
observation, Doctor, about 7:30 in the morning?

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D.5

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A. Well, that is a major
dysrhythmia.

THE COMMISSIONER: It is a major what?

THE WITNESS: Major dysrhythmia. I
mean it is a major disturbance of rhythm.

MR. LAMEK: Q. And it may not be
unreasonable to infer that is why about 7 o'clock in
the morning according to the nursing note at the top
of the page Dr. Schaffer was there?

A. Yes.

Q. This is Dr. Schaffer's note, is
it not?

A. Yes, it is.

Q. Dr. Schaffer having administered
atropine, the blood pressure back up, the child appears
more stable. He ordered blood to be drawn, and then
he is obviously considering the etiology of these
events that he had been considering.

A. Yes.

Q. And one of the things he raises
is the question of toxicity. Is that a reasonable
consideration to canvass at that stage, Doctor?

A. Electrolyte, bilirubin toxicity.

Q. Well, it is --

A. He says bilirubin test.



D.6

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Q But on the left he says toxicity comma, electrolyte imbalance, billirubin toxicity.

A Yes.

Q He is canvassing toxicity, is he not generally and specifically in the case of billirubin?

A Yes, I think that is right.

Q And I take it it is a reasonable possibility to canvass at that stage?

A Yes.

Q Now the child is not on digoxin; there is no reason for him to suspect digoxin toxicity, I take it?

A No.

Q They are not administering digoxin to this child?

A No.

Q But indeed, Doctor, had this child been on digoxin, with the dysrhythmias that had been observed, AV block, the bradycardia, coupled with the vomiting, you would not have been surprised I take it had Dr. Schaffer considered digoxin toxicity?

A Yes. I would not have been surprised.

Q It would be an appropriate consideration, would it not?



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A. Yes, it would have been.

Q. The following page, Doctor,
9:35 in the morning, and this I believe to be your
note, is it?

A. It is.

Q. How did it come about that you
were the author of this note?

A. I think I was the ward chief
of the month for that particular period during the
summer.

Q. This was the last day of June;
it may be the last day of your rotation?

A. Possibly.

Q. At least I can expect help with
the handwriting if I can't read it?

A. Yes.

Q. "Infant had cardiac arrest
9:03. Resuscitative attempts
continuing but response poor so far.
Sequence of events raise possibility
of a viral type infection and despite
the absence of heart failure -- "
and that one has got me?

A. Under.

Q. " ... under observation, the



D.9

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"conduction system became involved.
Electrolytes and blood gases at the
time when arrhythmia started were
normal so that it seems unlikely
acidosis or respiratory arrest was
responsible. The baby was covered
by -- "

covered, is it?

A. Yes.

Q. " ... covered by gentamycin
with the possibility of sepsis. Other
investigative studies were underway
and the GI service had seen the baby.
There was no indication of ... " --

pending is it?

A. Impending decay.

Q. " ... impending decay in the
condition and plans were in train
to transfer the infant this week to
the GI service. The cause of the
episode is thus quite uncertain."

Doctor, that is obviously the note,
you will forgive me, of a man who was wondering what
has caused this situation to occur?

A. Yes.



D.10

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Q But one of the things that occurs to you is the conduction system of this child's heart became involved in some way?

A Yes.

Q And that is I take it primarily from the observation of AV block?

A Yes.

Q And again the child not being on a regimen of digoxin, no reason for you to turn your mind to that, but that is a known symptom of digoxin toxicity, is it not?

A Yes.

Q To go on with the note:
"Called to cardiac arrest",
and this appears to be Dr. Smith's note?

"Child asystolic being given CPR
by ward staff. Initial attempts
with -- ",
what is that, sodium bicarb?

A Yes.

Q Isuprel, restored cardiac tracing but no blood pressure or output.

Despite intravenous and intracardiac administration of again bicarb I take it, Isuprel, adrenalin, and is that calcium?



D.11

1

2

A. Calcium.

3

Q. Calcium, unable to recover

4

cardiac output and pronounced dead at 9:40.

5

The note is written at 9:45.

6

"No reason for sudden unexplained
arrest based on clinical evidence."

7

The coroner therefore I take it was notified by

8

Dr. Contreras?

9

A. Yes.

10

Q. And I take it the significant

11

language that you would take out of that note based

12

on what you have already told us, Doctor, is based on
clinical evidence?

13

A. Yes.

14

Q. There may well be an explanation
for those events in light of the information that came
to light on autopsy?

16

17

A. Yes.

18

Q. And I take it, too, Doctor,

19

that the terminal events, the observations that were

20

made, vomiting, heart block, arrhythmias and so on,

21

their onset and their course, are certainly consistent
with digoxin intoxication, are they not?

22

A. Yes.

23

Q. Was there any discussion among

24

25



D.12

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the cardiologists on your staff and among the
Cardiology Fellows about the cause of this baby's death?

4

5

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A. I believe there was. With me,
at the time, and I presume at the conference. I can't
remember the details of that other than I don't
believe that the digoxin issue loomed large.

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Q. This was the very start --

A. Yes.

Q. -- of the whole course?

A. Yes. I think people felt that

the baby - that there were other explanations for
that.

Q. Did you at the time of this
death have an opinion as to the probable cause of it?

A. At the time?

Q. Yes.

A. At the time of the death I

wondered about viral causes.

Q. Yes.

A. The reason for that was the
hepatitis question had not been resolved. It was
still a real possibility, and then if you have a viral
infection affecting the liver it is also possible it
might affect the heart, and if it affects the heart
it is very common for the babies to have quite abrupt



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And the outstanding two pictures to me were the presence of bilateral extensive pneumonia and the change in the papillary, infarction of the paillary muscle. I thought that the most likely cause of the arrest was secondary to the pneumonia.

Q. And have you at any time since then, Doctor, to the present had cause to reconsider the likely cause of death of this child?

A. I still maintain that that is the explanation and I have gone over that record of course again.

Q. Of course. Doctor, one very interesting note in the - well, several interesting notes, but particularly one interesting one at page 54 of the record. I confess I had at first thought that this was your handwriting but I believe it not to be. Do you recognize the handwriting of this note or the signature at its foot?

A. I'm not sure but I think it may be the liver consultant.

Q. It looks like an intern if there is GI there, is that correct?

A. It may be Dr. Weber.

Q. The note is always easy to read but perhaps we could do our best with it. As



1

2

I read it, it is dated June 30, the date of the death:

3

"This child was seen at the time of
cardiac consult."

4

5

Is that "consult"?

6

THE COMMISSIONER: Arrest.

7

MS. CRONK: Arrest.

8

MR. LAMEK: Q. Arrest, all right.

9

"There is..." a something "...liver".

10

A. "an impressive liver".

11

Q. "...an impressive liver -
crossing..." what's that?

12

A. "the mid line"...

13

Q. "the mid line and quite firm".

14

Is that correct?

15

A. Yes.

16

Q. "can't feel spleen. No other
obvious..." something "...findings".

17

A. Hepatic, maybe.

18

Q. I'm sorry, what did you

19

suggest?

20

A. I wondered whether it might

21

be the word hepatic, but that doesn't - I don't know
what he means by that.

22

Q. All right.

23

"Just two weeks old - trouble at birth
(resuscitation)".

24

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E3

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I have trouble with the next line as well.

A. "Early icterus noted", early
jaundice.

Q. Thank you. "Failed to thrive".
The note on the right says "Little history available
unfortunately".

And then he is canvassing different
causes for the events, is he not?

A. Yes.

Q. Diagnosis (1)
"Not likely sepsis - on treatment"
and something nothing so far.

A. Cultures I think that means.

Q. Cultures.

A. That means cultures no growth
so far.

Q. No growth so far, nothing
to indicate infection.

"(2) Quite likely 'metabolic' except
hard to think of anything this
dramatic - (half per cent sugar
in urine).

(3) Could be (something) infection".

A. "Could be neonatal infection".

Q. "Could be neonatal infection",



1

2

thank you, "but (something) expected," would expect,
or would have expected more dramatic illness earlier?

4

A. Yes.

5

Q. "(4) Could possibly be
some sort of drug overdose -
accidental or otherwise".

6

7

A. Yes.

8

9

Q. Doctor, have you ever read
this note before?

10

A. No, I don't think I saw that
note during - I don't recall him being there at the
time of the arrest, but maybe he was. It was
obvious that whoever wrote that note was anyway.

11

12

13

14

Q. Yes. But it does appear,

15

16

17

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19

20

does it not, that on June 30th, 1980, in sitting
down and trying to fathom out what could have
caused or brought about the events that led to the
death of Laura Woodcock, the author of this note
at least was prepared to contemplate the possibility
even of intentional overdose of some drug as a
possible explanation.

21

A. I don't think that's what
that consultation note implies at all. I think what
he is doing there is making a consultation note on
the basis of the liver problem and he's trying to

22

23

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E4



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sort out what is causing the jaundice

3

and when he is talking about drug overdose,

4

he's talking about some drug that affects the liver

5

cells.

6

Q. Okay. Now, I'll keep it

7

in that context then, and you may be right, but we

8

will have to ask the author. But even in that

9

context, does he not contemplate the possibility of
intentional overdose as one explanation; accidental

10

or otherwise, I suggest you can only really have

11

one meaning to that, accidental or intentional?

12

A. Yes. But I don't believe

13

that he is referring to the mode of death, he's

14

referring to the liver.

15

Q. Whatever he is referring to,

16

Doctor, he contemplates as a possible explanation,

17

does he not, intentional drug overdose?

18

A. Of the liver.

19

Q. Of whatever, whether it

20

leads to death or not. You wouldn't draw a distinc-
tion in terms of morality or ethics between

21

intentional overdoses that are directed to liver

22

and intentional overdoses that are directed to

23

other things, would you, Doctor? An intentional

24

overdose is an intentional overdose.

25



E6

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A. Well, I think he is just
looking at the liver, Mr. Lamek, I can't...

Q. Well, okay.

A. I can't do more than.

THE COMMISSIONER: Is there any way -
I'm sorry, Doctor, but to make sure I understand you,
you say that it's a drug in association with the
liver, but the drug would have to be administered
by man, would it not?

THE WITNESS: Yes.

THE COMMISSIONER: So that if it
is an accidental or otherwise overdose, it would be
an accidental or otherwise administered by man
overdose of a drug?

THE WITNESS: Of a drug that
affects the liver.

THE COMMISSIONER: That's right, as
it affects the liver.

THE WITNESS: Yes. Yes, I'm not
questioning that, Mr. Commissioner.

THE COMMISSIONER: You are just
merely saying that that wasn't the cause of death?

THE WITNESS: No, I think he is
talking about the liver alone. I don't believe he
is talking about ---



E7

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THE COMMISSIONER: But the liver
was affected by it?

THE WITNESS: Yes.

THE COMMISSIONER: And surely the
disease of the liver contributed at least to death?

THE WITNESS: It may have, yes,
but I think that in this specific consultation
report, he's not talking about the rest of what
happened to this baby.

MR. LAMEK: Q. Doctor, he may not
have been, you may be entirely right, but he is
trying to arrive at an explanation for something as
to which he is apparently puzzled, whether it be
the liver condition, the child's non-cardiac clinical
status, if I can put it that way, whatever it is he
is trying to explain something to himself, is he not?

A. Yes.

Q. And canvassing possibilities?

A. Yes.

Q. And he says is it infection -
well, I don't think that's likely to have been that;
could be metabolic except, gosh, what happens like
this, anything this dramatic suggests that he may
be thinking of a bit more than the liver, but we
will let that go for the moment. Could be



E8

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some neonatal infection. Well, it could be that too,
or it could be some drug overdose.

3

4

Now, how does a drug overdose happen.

5

He's prepared to accept that whatever context he is

6

speaking, he's prepared to contemplate that one of

7

the causes for whatever condition he's investigating

8

may be drug overdose and that drug overdose may be

9

accidental or it may be non-accidental?

10

A. Right.

11

Q. All I'm suggesting to you,

12

Doctor, is that someone sitting down and addressing

13

a problem, no matter how that problem is defined,

14

appears, does he not, to have been prepared to

15

contemplate the possibility of non-accidental overdose

16

as an explanation for the problem?

A. Yes.

17

Q. And as I have understood you,

18

and believe me I understand your view as well, that

19

is not a possible explanation that occurred to you or

20

any of your cardiologists with respect to any of

21

the deaths that we have examined until we came to

Kevin Pacsai?

22

A. No.

23

Q. Right.

24

A. I guess with the exception of

25



E9

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the patient who had naloxone.

3

Q. Oh, Velasquez?

4

A. Yes.

5

Q. Yes, the possibility of

6

overdose was considered there, clearly not considered

7

in the context of an intentional overdose, was it?

8

A. No, but of an overdose.

9

Q. Yes. The question was, had

10

he made some mistake in giving too big an overdose
and what was the effect of that?

11

A. Yes.

12

Q. Yes.

13

May we go on please, Doctor, to

14

Kristin Inwood. This child was born February 23,

15

1981. She was admitted to the Hospital for Sick

16

Children on March 11th, in the early afternoon of

17

March the 11th and she died in the early morning at

18

3:00 a.m. at March 13th, 1981.

19

Now, we have a diagram of her heart

20

and to an untrained eye it looks reasonably normal.

21

Can you help us, Doctor, first telling us whether

22

it does reasonably accurately show the heart of
Kristin Inwood?

23

A. Yes, I think it does.

24

MR. LAMEK: May that be the next

25



1
2 exhibit, please, Mr. Commissioner.

3 THE COMMISSIONER: Yes, Exhibit 119.

4
5 ---EXHIBIT NO. 119: Heart Diagram of Kristin
6 Inwood.

7 MR. LAMEK: Q. And could you help
8 us, what is there of interest in the diagram there
9 in terms of the anatomy?

10 A. This youngster had, as the
11 main abnormality, coarctation of the aorta. You
12 see here there was a tubular hypoplasia of the
13 aorta, that is, it was fairly small in its arch and
14 then there is a localized constriction, as we have
15 seen in others, opposite the mouth of the ductus
16 arteriosus.

17 So, there was coarctation of the
18 aorta with a patent ductus arteriosus.

19 There was, in addition, a bicuspid
20 aortic valve, two leaflet valve instead of three.
21 That's not a critical obstruction but a mild degree
22 of obstruction and the heart as a result of the
23 deformity was a little enlarged, was moderately
24 enlarged.

25 The circulation therefore is quite,
usual direction, the venous blood coming into the
right heart, being pumped out into the lungs



1
2 through the pulmonary artery coming back through the
3 pulmonary veins to the left side, down to the left
4 ventricle, out through the bicuspid valve, into the
5 relatively narrow aorta and held up to a degree at
6 the coarcted segment.

7 The degree of that obstruction you
8 may remember is related very often not only to the
9 preceding narrowing of the aortic arch but the
10 opening aperture of the ductus. If the ductus is
11 wide open the degree of obstruction here is less
12 because of the possibility of by-pass of blood.

13 Those were the sensible findings,
14 Mr. Lamek.

15 Q. Thank you, Dr. Rowe.

16 Dr. Rowe, the child had been
17 referred to the Hospital for Sick Children from the
18 Toronto East General Hospital. The findings that
19 had been made there are summarized or stated in the
20 letter of Dr. Cameron at page 11 of the chart, I
21 believe. It sets out for the benefit of Dr. Fowler
22 the history of the child and their observations.

23 In the second paragraph of the
24 letter, about a third of the way through the paragraph:

25 "There appeared to be no congenital
abnormalities and the infant was



E12

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"admitted to the Observation Nursery
in good condition but eventually
developed tachypnea with inspiratory
stridor..."

What does that mean, noisy breathing?

A. Noisy breathing, yes.

Q. "...and the baby was seen at
1900 hours. At this time the
infant was in approximately 30 per
cent oxygen, skin was noted to be
dry, the infant tachypneic,
respiratory rate around 80 per minute.
The cry was weak, peripheral pulses
were palpable, neonatal reflexes were
sluggish."



BN.jc
F

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The next paragraph, became increasingly tachypneic over the night of February 23; the morning of February 24th the child was transferred to the ICU Nursery and umbilical artery and venous catheters inserted. Chest X-ray showed a rather globular heart but on measurement not enlarged. The vessels were felt to be dilated and fractured left clavicle noted.

The next paragraph, the second line:

"The infant was noted to become increasingly edematous peripherally particularly over the lower extremities and the child was given two doses of Lasix with good improvement."

February 26th, a little lower down, crepitations noted in the bases bilaterally.

"The child continued to become somewhat tachypneic throughout the lungs 'wet'."

And an echocardiogram done at the Hospital for Sick Children March 5.

The child went back to the East General, ICU Nursery, virtually unchanged since that time, tachypneic with odd moist crepitation noted throughout both lung fields.



F.2

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Seen by Dr. Shone on February 28.

3

Do you know who Dr. Shone is?

4

A. Yes, Dr. Shone is a paediatrician

5

and paediatric cardiologist who practises at the

6

East General.

7

Q Thank you. At that time, a

8

murmur was first audible, the first time they had
noticed anything.

9

Liver palpable, 2.5 centimetres

10

below the right costal margin.

11

"The ECG showed some peaking of the

12

T waves indicating right atrial

13

enlargement but there was no evidence

14

of ventricular hypertrophy."

15

They gave the baby a septic workup, no positive
findings.

16

The echocardiogram was reported as

17

showing aortic stenosis and a possible atrium septal

18

defect, only a verbal report.

19

"The baby has been on digitalis and

20

Hydrodiural since February 28th

21

without any marked clinical improve-

22

ment in the lung fields and, as stated,

23

received Ampicin and gentamycin for

24

a week. It is felt that the baby

25



F.3

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"needs further investigation at the
Hospital for Sick Children including
cardiac catheterization."

5

It was for that reason that the child was admitted to
Hospital, was it, a follow-up of the ---

6

7

A. Yes, the baby had actually been
sent to the Hospital previously.

8

9

Q. For the echocardiogram?

10

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A. For the echocardiogram, and that
was a specific test that was ordered by Dr. Shone,
which was done, and the baby was then transported back.

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Q. But now they are suggesting
catheterization to investigate further the suspected
problems?

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A. Yes.

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Q. At page 55 of the record, Doctor,
is the discharge report. The course at the Hospital
was not a long one, and therefore, to provide a
summary of it, it will be a bit of an exercise in
superogation, but nevertheless, the Hospital course,
after the setting out of the history and the findings --
I should go back to the physical examination, half
way down page 55, acyanotic, no clubbing, heart rate
was 140, respiratory rate was 78, the child was in
congestive heart failure.



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Doctor, how do you make that determination; how do you decide whether a child is in congestive heart failure?

A. Well, on a newborn infant it is a more complex decision than it is in an older child.

Q. Yes.

A. It is usually a combination of an increase in heart rate and respiratory rate, and signs of enlargement of the heart on X-ray plus other signs that you can note on auscultation, and of course the liver size is a factor that has to be considered.

Q. Thank you. There were crepitations. He was hearing sounds in the lungs that apparently had not been observed at the time Dr. Cameron wrote his letter apparently?

A. Yes.

Q. Head, ear, nose and throat examination unremarkable. Right ventricular heave. I do not pretend to understand what that is.

A. That is when you put your hand over the front of the chest you feel the right ventricle pushing away at your hand, and normally you do not feel that.

Q. The liver was palpable,



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4 centimetres below the right costal margin. The spleen tip was palpable, 3 centimetres below the left costal margin. Large heart shown on X-ray, normal pulmonary vascularity and evidence of pulmonary oedema. Sinus rhythm on the ECG, right atrial hypertrophy, right ventricular hypertrophy, ST depression.

Now, this child was on digoxin at the East General Hospital, I think?

A. Yes.

Q. Admitted to the Hospital, and the digoxin and diuretic treatment was continued, and the child was to be catheterized the morning of March 13th. It did not make it to the catheterization lab. The early morning of March 13, the child became tachypneic, was given an extra dose of lasix, developed a short burst of tachycardia, went up to 200 a minute; that result, became bradycardic, followed momentarily by cardiorespiratory arrest. "Momentarily", I take it that means within moments?

A. Yes.

Q. Or not followed very briefly, over a very short time.

"Attempts at resuscitation were not successful."

Parents were notified and consent for autopsy obtained.



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Doctor, upon your review of this chart, what do you consider to be of significance and importance to assist in an understanding of the death of Kristin Inwood?

A. I think the main features that seemed important to me in the history in the record were that the baby developed trouble within 12 hours of the delivery. Although it was not possible to, at that stage, define what the abnormality was with the heart, there was obviously something quite important going on.

The pulses were -- the respiratory rate was up, there was a weak cry, there was increasing tachypnea and the baby had a globular looking heart with some oedema he thought in the lungs, and although the heart was not huge at that stage, by report, I would have to know before I can say much more about that just what the precise size of the heart was because of this difference of opinion people have about what is a big heart and what is a normal size for a newborn.

But the whole feature there would strongly suggest that that heart was perhaps larger than had been suggested.

Then the other important features,



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this baby was on therapy for some days, I think it started on the 28th of February, so it was on therapy for 11 days, would that be --

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Q. Yes.

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A. -- prior to transfer, and when it arrived, it had very obvious heart failure. So that it had not responded really to medication, and I think that is an important point.

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There were some confusing factors in that the murmur sounded as though there was aortic stenosis, and the echocardiogram had suggested there was aortic stenosis. But in fact, that was not the key issue. The key issue was the coarctation, and there were some signs of that actually in the initial admitting examination where they talked about weak pulses and blood pressure differences between the arms and the legs.

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In coarctation, the blood pressure would be higher in the arms than it is in the legs. While sometimes in newborn infants you can get a minor difference between the upper and lower extremities in the normal, a difference of about 28 millimetres of mercury, which is suggested on page 55 in the physical examination, is much more in favour of there being coarctation.



F.8

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2 But at any rate, it was evident that
3 this baby had considerable congestive failure. Then,
4 I think during the 12th, the respiratory rate
5 worsened. There were crepitations evident in the
6 lungs and the baby -- some things were added to the
7 anticongestive routine, more lasix, and a catheter-
8 ization was being arranged.

9 I noticed that some nursing notes
10 said that the baby is not drinking from the bottle,
11 seems to tire out after sucking, and all feeds were
12 given by syringe into the mouth.

13 Then I think the important events
14 are related to the actual description of the terminal
15 episode. But I would take it that that baby was in
16 failure, that it was probably getting worse, and it
17 was related to a severe coarctation of the aorta.

18 I think the steps that were planned
19 were reasonable to take. One would have expected or
20 one might wonder about the need to do those studies
21 earlier, I mean, the previous night, but I think
22 that is a judgment call that the physician has to
23 make.

24 Clearly that baby needed something
25 done surgically before too long.

Q Doctor, at the time



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of this death, the death occurred in the middle of March, when did you first apply your mind to the case of Kristin Inwood? I assume in the first place it was raised at the normal cardiology meeting?

A. I would think that was when it was, yes.

Q. Did you at that time form any impression or opinion as to the probable cause of death of this child?

A. I thought it would be related to congestive, severe congestive failure.

Q. In the case of Kristin Inwood, was additional important information available after autopsy that had not been available prior to autopsy?

A. I think there was -- yes, there was some.

Q. The final autopsy report is included at page 20 of the chart, Doctor. Maybe you can take a look at that and let us know what ---

MR. PERCIVAL: Mr. Commissioner, I rise at this point because page 19, I know there is something on it but I cannot read anything that I have got on that page.

THE COMMISSIONER: Nor can I.

MR. LAMEK: It will not say much of



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any detail, Mr. Commissioner. Many of these death certificates have been virtually illegible on reproduction, but the information as to time and cause of death is usually available elsewhere.

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MR. PERCIVAL: I gather it is just a carbon copy of the original that has gone to the Department of Vital Statistics, so that is the difficulty you have?

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MR. LAMEK: I am sorry?

MR. PERCIVAL: I say, the difficulty you have, the original went to the Office of the Registrar General and you are photostating a copy?

MR. LAMEK: That is right.

MR. PERCIVAL: I understand.

THE COMMISSIONER: I think we have the best machine available, or at least by the bill-wise it is one of the best available. But sometimes the basic product is not up to much.

Well, I do not think that is worth investigating further, is it, Mr. Percival? Are you suggesting we ---

MR. PERCIVAL: I was just wondering, in some of these charts, that document is in there and some of them it is not. Might it be investigated by the Commission Counsel as to whether we could get



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copies of the original with the Office of the Registrar General?

THE COMMISSIONER: Well, how important is it?

MR. PERCIVAL: I do not know because it is supposed to show the cause of death signed by either a coroner or the attending physician.

MR. LAMEK: Mr. Commissioner, to the extent that the death certificate is normally completed very shortly after the time of death, I would have thought that the information available on autopsy is a good deal more reliable in that respect.

Q Is that fair, Dr. Rowe?

MR. PERCIVAL: I think he is right, Mr. Commissioner, but as I say, I do not know -- there seems to be autopsy particulars that contemplate that there may be further information, you are quite right.



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THE COMMISSIONER: Well, I am always in favour if anybody wants any more information that is going to help us. I just think if it contradicts the autopsy report we would probably just ignore it. That is the problem with pressing that one further.

MR. PERCIVAL: I understand.

THE COMMISSIONER: Yes. All right.

MR. LAMEK: Thank you,
Mr. Commissioner.

Q. Dr. Rowe, I direct your attention to the autopsy report, page 20, and could you let me know from a review of that what information of significance did not become available until autopsy?

THE COMMISSIONER: If anybody is interested I looked up how to pronounce that word, and either autopsy or autopsy is satisfactory.

MR. LAMEK: That is why I use both.
That is why I use them interchangeably.

THE COMMISSIONER: Yes.

MR. LAMEK: Thank you, sir.

THE WITNESS: Well, first of all it does confirm the clinical diagnosis or coarctation of the aorta.



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MR. LAMEK: Q. Yes.

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A. And bicuspid aortic valve
and patent ductus arteriosus. And that the heart
is enlarged.

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What we didn't have, of course,
evidence of clinically was the presence of fluid
in the cavities, abdominal cavity, ascites, pleural
effusions, and interstitial edema and pulmonary
congestion and edema, but those are really confirma-
tory of the conclusion that the heart failure was
severe. The additional finding of amniotic squame
aspiration was not suspected, and the presence of
subendocardial myocardial necrosis although predicted
would not necessarily be unexpected in a baby with
a severe coarctation and heart failure because that
is not uncommonly a finding at autopsy. But that
is an important point because of the possibility
that it may initiate arrhythmias.

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The other point, of course, is that
the baby was small for dates, meaning that, for the
gestational age, of lower birth rate than expected.
Those are the main points.

Q. Doctor, I'm interested that
the pathologist in the penultimate paragraph of the
report on page 21, having set out his findings, says:



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"Several factors may have contributed to the death of this infant. However, no clear cause is defined."

He goes on to list the candidates for contribution to death.

Would you agree that even as at the date of the final autopsy report no clear cause of the death was defined?

A. Well, no, I wouldn't agree with that entirely. I think, you know, I didn't ask him directly exactly what he meant by that sentence, but I would have thought that there were sufficient findings there to account for death.

Q. He may be saying no more than that any one of these things could have done it.

A. Yes.

Q. But we are not sure which one.

A. We are not sure.

Q. The baby we have said was receiving digoxin. The doctor's orders are set out on page 75 of the report - of the record; sorry. The bottom order on page 75, dated 11th of March, date of the child's admission, was for the maintenance dose of digoxin, was it not?

A. Yes.



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Q. Same day, the top of the next page, the order was for digoxin levels to be taken once a week.

The next morning at 6 o'clock - is that 6 o'clock in the morning?

A. I think so. 12th of March at 6:00.

Q. The order is:
"Please hold digoxin for the next four doses and do dig level today."
Then "Restart dig after holding four doses and checking level."

Are you aware of anything in the chart, Doctor, that would prompt the giving of that order at 6 o'clock in the morning? Is that Dr. Canta?

A. Yes, I believe it is Dr. Canta.

Q. That she should see what was going on in the early morning of the 12th?

A. Of the 12th.

Q. There doesn't appear to be a great deal, but perhaps I am missing something, Doctor.

MR. PERCIVAL: Page 87 would seem to indicate that digoxin was never given to her in



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the Hospital.

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MR. LAMEK: Well, that may have been because before the order could have been implemented the order went out to hold it. Let's look at the order first.

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Q. Now do you see anything in the chart, in the notes, to suggest a reason for the order that was apparently given earlier on the day of the 12th?

A. I was looking - I thought I had seen something about a resident's notes somewhere on the 12th, but I don't think - yes, it is on page 52, but it doesn't say anything about withholding digoxin. That looks as though something that Dr. Canta did without making a note. I don't know whether the nurses' notes help there in that respect.

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Q. Wait a minute, Doctor. I think I may have something. Yes, I'm sorry, I have it.

There is a reference in Dr. Bain's report.

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A. Yes.
Q. At page 20 Dr. Bain's report there is a footnote. In the text at the end of the first paragraph on page 20 Dr. Bain reports with



respect to Kristin Inwood:

"At 9:00 a.m. on the 12th of March digoxin level was 2.6 *Footnote. On 12 March, 1981, at 5:30 a.m., Kristin received through error an excessively large maintenance dose of digoxin based on the weight of the baby in the next bed. The digoxin level at 9 o'clock was high, 2.6, but well within therapeutic range. An incident report was made out."

Q. An incident report does not appear to be in the chart, does it, Doctor?

A. No.

Q. That would explain, I take it, then why at 6 o'clock in the morning Dr. Canta would say hold the digoxin; let's get a level on this child?

A. Yes.

Q. That being an administration error?

A. Yes, administration --

Q. Sorry, I had forgotten about that. And in fact the child never did see the resumption of the digoxin order.



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Now if we turn to the medication sheet, Doctor, which is what, page 87, I think, there is the starting order on 11/3 and four doses held.

There is no initial or signature for the evening dose of the 11th, Doctor, although the digoxin should have started at that time, should it not?

A. Yes, assuming the admission was earlier in the day.

Q. Well, the order to start digoxin was given at 5 o'clock in the afternoon.

A. Yes. So it should have --

Q. Therefore at 2100 hours it should have been - there should have been a dose of digoxin given?

A. I would think so.

Q. It doesn't appear to have been given, though, from that medication sheet, does it?

A. I can't see any signature there to suggest it has been.

Q. Whether it was given or not it was ordered and then held the following morning in light of the incident that Dr. Bain refers to.



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The level that was recorded, found at page 81, Doctor, biochemistry report, sample of venous blood submitted, having been drawn at 9 o'clock on the 12th of March and sent for assay, produced a level reported on the 14th of March of 2.6 nanograms per millilitre.

So even the administration, mistaken administration in the morning, did not produce a grossly elevated level by 9 o'clock that day?

A. No. That is an indication that --

Q. Slightly high?

A. No, not high because it is --

Q. Oh, it is on top of her normal dose?

A. It is 5:30 it was given and you are talking about three and a half hours later.

Q. Three and a half hours later.

A. So that would be the normal distribution of it.

Q. Yes.

A. Less, of a small dose actually.

THE COMMISSIONER: I think in light of the hour, if this is a convenient time?

MR. LAMEK: Yes, indeed.



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THE COMMISSIONER: In light of
the hour we started; not the hour now, this might be
a convenient time.

MR. LAMEK: Yes, indeed.

THE COMMISSIONER: Fine. We will
take 15 minutes then.

---Short recess.



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--- Upon resuming:

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THE COMMISSIONER: Yes, Mr. Lamek.

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MR. LAMEK: Q. Dr. Rowe, the progress

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notes understandably occupy a rather short space in

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the chart. Could we take a look at the notes as they

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relate to the period leading to and the period of the
terminal events of Kristin Inwood, please?

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A. Yes.

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Q. I think we will find those at

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page 61, 62.

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A. Yes.

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Q. And there is really so very

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little for us to look at.

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Really, perhaps you should start at

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page 63, Doctor, the nursing note which apparently
occupied the very early hours of the 13th of March.

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It is a note of Nurse Harwood Jones.

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At 2 o'clock in the morning the baby

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was feeding poorly all night, fed by tube.

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A. Yes.

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Q. The apex rate was 152 down to

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119, respirations high rate of 84 down to 40, dose

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of lasix at 3:10 and that produced some elimination

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of urine. At 2 o'clock the monitor's strip, the ECG
strip, showed abnormalities, which was recorded, and

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the team leader was notified, a resident was called.

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He administered a dose of lasix and thereafter

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apparently a bout of tachycardia, rate up to 200.

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The baby was irritable and a half an hour later a

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Code 25 was called and the baby could not be revived,

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is the nursing note. Now, if we turn back to page 62

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the arrest note is set out at the bottom of the page,

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13/2 - 13/3 I suppose that should be, Code 25 called,
child was known AS.

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A. Aortic stenosis.

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Q. Aortic stenosis, thank you.

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What the nurse had recorded was merely abnormalities

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and then tachycardia before the Code 25 was called

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and the Code 25 team arrived, the arrest team

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arrived and they record bradycardia?

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A. Yes.

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Q. And, so, there has apparently

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been a different kind of arrhythmia develop in the
space of time between the calling of the arrest and

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the arrival of the arrest team. Is that a reasonable
inference, Doctor?

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A. I don't quite follow you there,

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Mr. Lamek.

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Q. Well, if I look at the nursing

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note on page 63.

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A. Yes.

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Q. Immediately prior to the 25

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being called there is an indication of tachycardia.

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A. Oh, yes.

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THE COMMISSIONER: Where is that,

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I'm sorry?

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MR. LAMEK: Page 63, Mr. Commissioner,

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three lines - four lines from the bottom of the note,

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"Parents notified, 25 called", the line above that,

tachycardia 200 beats.

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THE WITNESS: Oh, yes.

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MR. LAMEK: Q The observation made

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by the arrest team when they arrived is one of

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bradycardia.

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A. Yes, I'm sorry.

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Q. We therefore have a change in

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the kind of arrhythmia between those two moments in
time?

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A. Yes.

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THE COMMISSIONER: I'm sorry, perhaps

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I don't understand that. I thought bradycardia and

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tachycardia were just forms of arrhythmia, are they

not? One is higher and one is lower.

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MR. LAMEK: Tachycardia is a fast

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rate, bradycardia is slow.

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THE COMMISSIONER: Yes, but isn't
that what arrhythmia is?

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THE WITNESS: Well, the term
arrhythmia is absence of rhythm.

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THE COMMISSIONER: Well, but that
does mean going faster and slowing. Rhythm would be
going at a regular beat, would it not?

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THE WITNESS: Yes. I think it is used
very loosely, Mr. Commissioner, and we have problems
with that. Some people are purists and want to keep -
unless there is a definite irregular rate present
they won't call it an arrhythmia, but others call it
a dysrhythmia, some people call it other things and
I think it is rather loosely - the terminology is
rather loose.

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THE COMMISSIONER: I suppose you can
have bradycardia without having tachycardia, that is,
it can go down and remain down?

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THE WITNESS: Yes.

THE COMMISSIONER: And then it can of
course stop, which is an arrest.

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THE WITNESS: Yes.

THE COMMISSIONER: But I had thought
that an arrhythmia would at least include this
variation from going faster and going slower. That's
not slow?



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THE WITNESS: It may do. But many people refer to the arrhythmia as the irregularity of the beat.

THE COMMISSIONER: Yes.

THE WITNESS: And other people would include in the sorts of things that happened what you are just saying now. So, I think there is a little bit of looseness about the terminology.

MR. LAMEK: Q. The Commissioner's point, if I may say so, is right and perhaps I have not been as precise as perhaps I should have been, sir.

I take it, Dr. Rowe, that a beat, a heart rate may be tachycardic, that is, faster than normal?

A. Yes.

Q. Without necessarily being arrhythmic?

A. Yes.

Q. It may be rythmically tachycardic, I suppose?

A. I have not heard it put that way before, Mr. Lamek.

Q. Well, you may not have, but is it a wrong way?

A. But I accept that as a very good suggestion.



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Q And equally it may be rhythmically bradycardic, which means slower than normal?

A Yes.

Q So, tachycardia and bradycardia refer to the speed or the rate of beating and not necessarily to the regularity or irregularity of the beats, is that fair?

A Yes.

Q All right. But each by its variance either above the normal rate or below the normal rate is a different and discernible kind of abnormality?

A Yes.

Q And so what we had here, prior to the calling of the arrest, according to the nurse, was that kind of heart beat abnormality which is characterized by a fast rate which may or may not have been irregular, but a fast rate. By the time the arrest team had got there, it had become a slow rate?

A Yes.

Q And just to follow the Commissioner's question a little further, Dr. Rowe, I take it that a heart rate may go from normal to



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faster than normal, that is, become tachycardic, and
then reverts to a normal rate?

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A. Yes.

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Q. It doesn't necessarily have to
become bradycardic, less than normal, before reverting
to normal?

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A. No.

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Q. Although sometimes that does
happen.

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THE COMMISSIONER: I've got another
problem. Would you call a Code 25 just for bradycardia?
I mean, not just for it, it may be very serious, but
I would have thought that you would call a Code 25
when there has been a natural arrest, isn't that
correct? That certainly has been my understanding.

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THE WITNESS: Yes. I think though
there is a little borderline, a border area where
some people might react a little more - they may feel
that the degree of bradycardia is more ominous to
them and might call for all the obvious aides that
they can get in rather than simply just notifying
the resident.

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MR. LAMEK: Q. I take it, Doctor,
that if a child were becoming increasingly bradycardic,
they watched the rate drop to 60 and then 50 and then



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40, it might be reasonable to call the arrest team at that stage rather than wait until the beat disappeared altogether?

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A. Yes.

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Q. Yes. Now, in this case, what was observed was a tachycardia, going up to 200 beats per minute, which is a relatively fast rate, is it not?

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A. That's a rate that many newborn infants can reach normally.

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Q. Yes.

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A. When I say normally, under conditions of excitement or crying or infection or anything. But it is faster than the rate I think that's recorded there for the previous several hours.

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Q. Yes.

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A. I think the rates, as I looked at them, were somewhere between 119 and 130. So, it is definitely higher than that.

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Q. Well, perhaps out of an abundance of caution the nurse thought it appropriate to call a Code 25 at that time as events turned out her concern was not ill placed, was it?

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A. No.

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THE COMMISSIONER: Well, I'm just wondering. If we look at this, it is at 2 o'clock

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is the tachycardia. That seems to be under the
2 o'clock and the babe was irritable and then it was
at 0230 the 25 is called, so, we don't know that
perhaps by 2:30 the situation had changed from
tachycardia to severe bradycardia.

MR. PERCIVAL: Mr. Commissioner, page
89 will give you some further information on that.

MR. LAMEK: Well, one thing before
we do that, Mr. Commissioner. There is an interval
of time there but there is also a sequence of events
in that half hour's time. At 2 o'clock the monitor
strip shows abnormalities. The team leader is
notified, the resident comes, a drug is administered
and then at some time after that has occurred, but
presumably before the 2:30 when the 25 is called, the
child becomes tachycardic, with a heart rate of 200
beats per minute. With respect, I don't think one
should read the tachycardia as having occurred at
2 o'clock, but in the sequence of events that are
recorded as having started at 2 o'clock. Is that a
reasonable inference, Dr. Rowe?

THE WITNESS: Yes, I think the nurse's
notes confirm that on the pages just referred to.

MR. LAMEK: I'm sorry, at what page
did Mr. Percival refer us to?



H.10

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THE COMMISSIONER: Page 88.

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THE WITNESS: Page 89.

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THE COMMISSIONER: Page 89. What do
we get from that, Mr. Percival?

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MR. PERCIVAL: No, Mr. Commissioner,

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it says irritable and then 0230 hours he's got
tachycardia 190 to 200 and then a Code 25 is called.
So, it would indicate that at 0230 that was the beat.

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THE COMMISSIONER: I'm sorry, I'm
lost again?

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MR. LAMEK: The right-hand column,
Mr. Commissioner.

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THE COMMISSIONER: Oh, the right-hand
side of the page, page 88, 89?

14

MR. LAMEK: 89.

15

THE COMMISSIONER: Oh, yes.

16

MR. LAMEK: Records irritable at
2:30, tachycardia.

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THE COMMISSIONER: Oh, you're quite
right, you're quite right.

19

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MR. LAMEK: Q 190 to 200 I take it
being a reference to the rate reached?

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A. I would think so.

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Q. And then "25"?

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A. Yes.

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THE COMMISSIONER: Yes, all right.
Well, I'm wrong. It's not the first time, but perhaps
I have been proved wrong a little sooner than usual.

MR. LAMEK: Q Well, whatever the
interval may have been, Dr. Rowe, between the
observation of the tachycardia and the summoning of
the arrest team, it is apparent, is it not, from page
62, that by the time the arrest team got there, their
observation was of a bradycardic rate?

A Yes.

Q And they administer adrenalin
and sodio bicarb, calcium gluconate, atropine, and
they obtain no electrical response, there is no
indication they are going to get anything going there.
No response to cardiopulmonary resuscitation and
after about a half an hour of effort, they stop their
resuscitation, and presumably the child is then
declared dead, which would put the time of death, I
would take it, a little after 3 o'clock in the
morning?

A Yes.

Q Now, Doctor, the terminal events
that are described there, the abnormalities, whatever
they might have been in the monitor strip, the
tachycardia, the bradycardia, the inability to



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resuscitate and the apparently rapid sequence of those events, are those events and their course and onset in your judgment consistent with the clinical condition of this child?

A. Yes, I think they are.

Q. Are they also, Doctor, consistent with digoxin intoxication?

A. I'm not quite so sure about that. I think I would have to say yes. It is just that the tachycardia that was noted seems to be a little unusual and that it would be associated with irritability.

So, the question in my mind is whether the real disturbance was the bradycardia, but of course even then it would be consistent. I just qualify that very slightly.



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Q. And certainly the pattern that we have seen in other cases has been usually bradycardia followed by tachycardia and ventricular fibrillation, is it not?

A. Yes.

Q. Were you aware or are you now aware, Doctor, that digoxin assays were done on fixed tissue from the autopsy of this child?

A. Yes, I am now aware of that.

Q. When did you become aware of that, please?

A. I think after the hearing.

Q. At pages 44 to 45 of Dr. Bain's report -- do you have that with you this morning, Doctor?

A. No, I did not bring it. I must do that.

Q. Page 44, Dr. Bain begins his comment on Kristin Inwood and refers to the digoxin information taken from Mr. Cimbura's evidence in the transcript of the Preliminary Hearing, and does he there set out the information of which you at some point became aware, Doctor?

A. Yes.

Q. What was your response to



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the information when you obtained it?

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A. Well, I did not understand the figures very well. I think by that stage I was getting pretty confused about the whole business of postmortem digoxin and I recognized that that was going to be something that would have to be settled by people who were more expert at it than I was.

Q. Fair enough, Doctor. Did you make any enquiry of any pharmacologist as to the significance, if any, of the levels apparently recorded by Mr. Cimbura in these postmortem tissues?

A. I do not know that I specifically sought out a pharmacologist and asked him about that particular one, but I think we did have many conversations with pharmacologists about what they thought of this, and I do not recall all the details, but I think that it became even clearer to me that that should be left to the experts.

Q. Well, do I put it fairly, Doctor, the interpretation of this information was something which you did not feel qualified to attempt?

A. Absolutely.

Q. And felt properly that that should be left to those skilled indeed in this



I.3

particular area?

A. Yes.

Q. Did you have any reaction at all other than that -- the experts must tell me what it means -- to the findings apparently showing large numbers of nanograms of digoxin in the tissue; did you regard that as remarkable or curious or anything of that sort?

A. I do not know that I regard it as remarkable. I really did not know what to make of it and that is about as far as I could go. I could not say one way or the other whether that was of great importance or not.

Q. Now, Doctor, that was when you first became aware of the information. Do you, at this point, have some view as to the significance of that which you have derived from information obtained from people expert in the area of pharmacology?

A. Well, it is all, you know, corridor talk, as far as I am concerned, and I do not know what the answer to the problem is.

Q. Has anything that you have learned since the date of the autopsy report of Kristin Inwood given you any cause to change your



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view of the probable cause of her death?

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A. No, I do not think so.

4

Q. Are you aware of any

5

discussion or question among or raised by staff

6

cardiologists at the Hospital or Cardiology Fellows

7

as to the cause of death or probable cause of death

8

of Kristin Inwood at any time since receipt of

9

the final autopsy report?

10

A. No.

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MR. PERCIVAL: Mr. Commissioner,

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there is reference at page 20 to a report of the

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neuropathological examination to follow, and I have

14

not seen it in the Hospital records. I am wondering

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if that is available as far as the Hospital is

16

concerned or if that was ever done?

17

THE COMMISSIONER: Can you help

18

us, Mr. Lamek, on this?

19

MR. LAMEK: I cannot. I have not

20

seen the report, Mr. Commissioner.

21

THE COMMISSIONER: Dr. Rowe, would

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you know anything about the neuropathological

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examination which was to follow and was referred to

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in the final autopsy report?

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THE WITNESS: No, I do not know

anything about that, Mr. Commissioner.



I.5

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2 MR. LAMEK: I will make enquiries
3 of Mr. Roland, if you would like.

4 MR. ROLAND: Yes, we will see what
5 we can do to find that, if there is one.

6 THE COMMISSIONER: Yes, all right.

7 MR. LAMEK: Q. We come now,
8 Dr. Rowe, to the case of Barbara Gionas who was
9 born January 22nd, 1981, became a patient at the
10 Hosiptal for Sick Children on January the 23rd, 1981,
11 and died at 1:45 in the morning of March the 12th,
12 1981.

13 As I understand it, the baby had
14 been born in the Toronto General Hospital and was
15 transferred the day after her birth to the Hospital
16 for Sick Children.

17 Now, once again, the Hospital
18 provided us, Doctor, with what I understand to be
19 a diagram of the anatomy of Baby Gionas' heart. Can
20 you so confirm for me please?

21 A. Yes, it is.

22 MR. LAMEK: May that be the next
23 exhibit, please, Mr. Commissioner?

24 THE COMMISSIONER: 120.

25 ---EXHIBIT NO. 120: Heart Diagram of Barabara
Gionas.



I.6

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MR. LAMEK: Mr. Commissioner, may

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I ask the Registrar, please, if we marked the diagram
4 of Laura Woodcock's heart?

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THE REGISTRAR: Yes.

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MR. LAMEK: I had thought that we
7 had. Yes, I thought so. Thank you.

7

8

Q. May we ask you, please,
8 Dr. Rowe, to do your anatomical description, please?

9

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A. Surely. This little girl
11 had two major sets of defects. The first is that
12 there were multiple ventricular septal defects
13 occurring in the septum between the two ventricles
14 or pumping chambers.

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There is a moderate size defect at
the upper portion, and a larger defect down in the
muscular part of the septum. In addition, there
16 was, and it is shown here as having been repaired,
17 a coarctation of the aorta and a patent ductus
18 arteriosus.

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So we have not, in this particular
diagram, kept the ductus in and put a couple of
stitches around it, but you can see the implication
of this patch-like appearance here is that the
coarctation has been repaired by what is known as
a subclavian flap in which the subclavian artery is



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2 divided so that its distal portion is closed off and
3 the proximal part which normally comes up as you
4 can see on that normal diagram where you see
5 innominate artery and then there is another branch
6 and then there is one branch above the word "aorta",
7 that is the left subclavian artery, and that has
8 been used as a gusset to enlarge the area of the
9 coarcted segment of the aorta. So that is what is
10 known as a subclavian flap repair of a coarctation,
11 and in the process, the ductus arteriosus is always
12 ligated.

13 There is an error in the diagram
14 only in this area here. There should be an atrial
15 septal defect illustrated there, and I am sorry
16 that we have once again failed on that score. It is
17 not the artist, of course, it is those of us who
18 described the defect.

19 We have not, in this diagram, either
20 indicated a second operation which was done on this
21 baby, which was the application of a pulmonary arterial
22 band. A band was placed in the middle of the
23 pulmonary artery, in that region there, and tightened
24 down to narrow the pulmonary artery at that point.
25 The purpose of that was to try and improve the
situation where there was continuing congestive failure



I.8

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2 following this repair because of the huge amount of
3 blood that was coming through the defects in the
4 ventricular septum.

5 So after the repair of the coarctation
6 of the aorta, the problem was of a huge left to
7 right shunt continuing, and the blood coming into
8 the right atrium arrived normally. There was some
9 coming from the left side to the right through an
10 atrial defect, it was going down here, and there
11 was a massive amount of shunting going across from
12 this ventricle to that, so that a huge torrent of
13 blood was going out to the lungs and then come back
14 to the left side of the heart again, some of it going
15 out the aorta and a lot of it going across the
16 defects, a problem of some magnitude because of the
17 fact that the defects were multiple.

18 That was not appreciated in the
19 early phase of the baby's course because the studies
20 had shown very clearly the top defect which was
21 not that very large, and it was thought that probably
22 relief of this obstruction might improve the
23 situations enough not to have to do anything about
24 this. But as it turned out, there was an additional
25 defect, and that was ultimately recognized because
of the failure to do well and the band was placed.



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So in summary, the malformation is one of coarctation of the aorta with multiple ventricular septal defects, and those were the two chief problems. The ductus and the atrial defect were less important.

Q. Doctor, thank you. On the diagram, the top of the ventricular septum appears to be thickened. Was that of any significance? Did it interfere with the operation of the valves there?



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A. I am sorry. I did omit that.
I omitted to say that was another point.

This area - thank you for pointing that out - the upper part of the septum was unusually thick. It should normally be the same width all the way down. In fact when it is up near the top it is fairly thin. But there was a large muscular bulbous nature to that area of the septum which suggested an abnormality of the muscle of the ventricle.

That is that you don't see localized enlargement like that. You see often generalized thickening of the wall all around, but when it is very localized like that it suggests that there is some actual disease called hypertrophic disease of the muscle, meaning that that part of the muscle is enlarging in an unusual way, abnormal distribution of the fibres, and generally it is a condition which is not treatable and it may become more extensive and move down in the septum.

So that was an unusual finding. I don't think we have seen that before in a baby in our experience in association with this combination. And that suggested a little concern on the part of those who were looking after her that there was a bit more to this than all the other things put together perhaps.



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I am sorry I omitted that at the beginning.

Q. Thank you, Doctor.

Were you aware of all the problems and anomalies that you described during the baby's life, or were some of them only known later?

A. I think that by the time - I think the baby had two studies performed, two heart catheterizations performed.

Q. Yes.

A. And by the time of the second study which was the 13th of February, it was recognized that there were two ventricular defects, and that there was this mass in the septum that was thought to be muscle.

Q. Yes, that is certainly reported in the second catheter report at page 133 of the chart, Doctor, the final sentence under the paragraph "results", is it not?

A. Yes.

Q. Now shortly after the child's birth a heart murmur had been detected, had it not? If we look at page 8 of the chart, which is the history - that history I assume is taken at the time of admission of the child.



J.3

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A. Page 80?

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Q. Page 8, I am sorry.

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A. That would be a transfer, a

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record made by the paediatrician transferring the
patient from the --

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Q. It says TGH.

7

A. From the Toronto General

8

Hospital, yes.

9

Q. Thank you. It records there

10

that there was transient tachypnea at birth; no murmur

11

initially. This morning increase in respiratory

12

distress. Respiratory rate was now 120. Apex rate

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164 and now he is recording the child has a cardiac

14

murmur and the liver is enlarged extending 3

15

centimetres I take it below the costal margin?

16

A. Yes.

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Q. His assessment is congenital

18

heart disease, a large head, and then two or three

19

queries that he raises, some chromosomal problem,

20

perhaps, metabolic difficulties, that sort of thing.

21

But an assessment at that stage of some congenital
heart disease?

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A. Yes.

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Q. And the child comes over to the

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Hospital for Sick Children I take it on that account?

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A. I believe so, yes.

Q. The same day that the child is admitted there is a cardiac catheterization and I think, Doctor, we can look again to the death report at page 20, the discharge note, for the overview of this thing?

A. Yes.

Q. The catheterization report of that first investigation is at page 113, Doctor, if you need to refer to it.

At that stage the coarctation of the aorta, the hypoplastic aortic arch was observed and also ventricular septal defect, atrial septal defect and the patent ductus.

A. Yes.

Q. Are identified?

A. Yes.

Q. Four days later the child goes to surgery for repair of the coarctation and ligation of the ductus, and the postoperative course of the child appears to be characterized by persisting heart failure?

A. Yes.

Q. And indeed there was difficulty getting this child off the ventilator, was there not?



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A. There was.

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Q. And largely because of those difficulties, the ongoing failure, there was a further catheterization on February 12, and that report is at page 133 of the chart.

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The repair of the coarctation looks perfectly fine at that time. We have now got two large ventricular septal defects noted rather than one that had been originally thought, and we have also got the observation of the muscle mass at the top of the septum.

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A. Yes.

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Q. The result of that is that there is a second visit to the Operating Room on February 18th, and as you have told us, Doctor, at that stage there is a band put on the pulmonary artery to reduce the flow of blood to the lungs, and I take it therefore to discourage, inhibit, the flow of blood through the ventricular septal defects into the right side of the heart?

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A. Correct.

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Q. There is apparently some improvement following that second operation.

The child is still in congestive heart failure. Respirations shallow and rapid.



J.6

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Doesn't feed very well. Being treated with digoxin and diuretics and does not thrive.

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In the early morning of March 9th the child has cardiac arrest and could not be resuscitated.

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Now that essentially is the story that is told in the discharge report, Doctor. Is it in short order a fair summary of the course of the child?

10

A. Yes.

11

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Q. Can you tell us, Doctor, what you believe to be of significance in considering the death of Barbara Gionas?

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A. I think the main impression that I get from the record and from reviewing the course is that there was a lot of trouble with heart failure.

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There was difficulty even when the baby was, on the 2nd of February, that is some time after the first operation, and the failure was continuing, and there was obvious evidence of a good repair to the coarctation, but there was one episode reported - I think that must have been in the Intensive Care Unit - of bradycardia while being suctioned, and occasional nodal beats noted there. And I think at that stage the digoxin levels were not



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particularly remarkable. So I think that would reflect again as the case would be with occasional vomiting that that was just the failure itself.

Then I think there is a record in the Intensive Care Unit about the 16th where there was a bit of concern about the elctrocardiogram which I think should be looked at perhaps?

The electrocardiogram looked abnormal with what is termed ST segment shifts, and I think the Cardiac Fellow was concerned about the question of digoxin toxicity.

Q Are you referring to the note on page 51, Doctor?

A. I am not sure whether it is on that page or not.

Q The note at the bottom of the cardiology note, the very end of it is "Please check digoxin level, ABN," which I take it means abnormal, "ECG"?

A. Abnormal ECG, yes.

Q That appears to be a note of Dr. Contreras?

A. Yes. There are some changes in the electrocardiograms which I have reviewed which do show some ST segment shifts but they don't really



J.8

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2 change very much over a long period of time,
3 including at a later time when the digoxin level was
4 only 1.2.

5 So I interpret those changes as
6 possibly some contribution from digoxin effect as
7 opposed to digoxin toxicity, and possibly some
8 endocardial problems from the stresses of this
9 malformation in the heart.

10 I say that because the electrocardio-
11 grams themselves also show enormous size of the P waves.
12 P waves in the electrocardiogram are a reflection of
13 the stress under which the atrium is working.

14 Q. Yes.

15 A. And the P waves have an
16 amplitude normally that is not much - that is not
17 greater than 2 millimetres in height, on the record
18 normally, and they are here - they start off at 3
19 and then they go to 5 and they stay at 5. They are
20 an enormous size. Again just a reflection in my view
21 of failure. And then after the band is applied that
22 seems to help.

23 The fact that for the first time they
24 were able to get this little girl off the ventilator
25 is of considerable importance, and then thereafter
there seemed to be, despite that fact, there seemed



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to be continuing evidence of failure.

I would have judged from the description of the murmur that was heard after the band was applied that one would have expected a better response. The loudness of the murmur after the band is created usually gives us some comfort about whether the band is going to work. The louder the murmur the more likely it is that things will be effective.

So there was a little discordance there. It sounded as though the description was of a loud band murmur, yet the liver remained large; the baby was still breathing fast and sweating and occasional problems with breathing, vomiting and so on.

So that sort of continued, and I notice that although there is no obviously major problem in terms of an incident one day versus another, there is a problem with respirations being irregular and with pauses of the heart rate and so on.

Then on the 7th of March, a whole new lot of things that happens there - I don't know whether you wish to deal with those specifically, but there were a number of other things there.

Q. Doctor, if you regard those as



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significant in our consideration of the chart, by
all means address them now.

A. Okay. Well on the 7th of
March --

Q. Yes.

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A. There is a note about the heart rate being 200 a minute and vomiting twice around noon.

THE COMMISSIONER: Where are we?

MR. LAMEK: Page 73 of the record.

THE COMMISSIONER: Thank you.

THE WITNESS: And I think that is a physician's note. But I presume that that was drawn to his attention by the nurses. He made a note that the last digoxin level was 1.9 on the 2nd and he thought that the digoxin should be held because of the possibility of digoxin toxicity, even though the last record was all right.

Then there is a note that I think, it looks as though it follows that note.

MR. LAMEK: Q. Yes.

A. In which the same physician talks about digoxin toxicity with atrial flutter.

Q. Yes. And a 2/1 block.

A. And a 2 to 1 block. And a digoxin level was planned immediately. I don't understand that note because the note says that this flutter was a 2 to 1 block, but the PR interval is .24 seconds and I don't understand those two terms, they are not compatible. You can't measure a PR



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interval in an atrial flutter because the rate is going - the flutter wave is not measurable in that sense, so, I don't understand the comment.

I assume that there was something there that caused him to be concerned that there might be a digoxin toxicity, partly from the vomiting and partly because of what he saw on the electrocardiogram, whatever that may be.

Q. Yes.

A. So, a digoxin level was obtained, I gather, and it is my understanding that that level came back at 1.2.

Q. Now, on the 7th of March, I believe that is right, is it not, Doctor?

A. Yes.

Q. Yes, it appears on page 238 of the chart, sample drawn at 3 o'clock in the afternoon on the 7th of March, it is reported on the 10th as having 1.2 nanograms of digoxin per millilitre.

A. Yes. So, my interpretation from that is that the digoxin toxicity is not responsible for that arrhythmia, but I think from the previous electrocardiograms, I would judge that this baby is a candidate to develop atrial flutter



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because the atrium has become stretched enormously and the P waves have become large. So, it may be that this baby, because of the progressive problems with failure, is in a situation where she was a candidate for a disturbance of rhythm, even though the digoxin might be appropriately - it would be at an appropriate concentration.

Q. Yes.

A. So that I don't really quarrel with the decision to hold digoxin, but that was what was done. I think that might have been handled in other ways, but I think that it is perhaps prudent for someone to do that until they can get some reassurance about the matter.

Q. Yes.

A. Then the next day the respiratory rate was a little up and a little higher than it had been, I gather. The temperature was elevated and although the rhythm seemed to be regular all day, in the evening this developed some irregularity and the report on that, that's the 8th of March, by whoever saw that, said that the electrocardiogram showed signs of rests. I'm not sure where that is. But at any rate, there is some comment in the chart about that irregularity, and



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2 then the final episode was described.

3 So, at that stage, I think that, in
4 reviewing the record up to that point, one would be
5 concerned that despite this large amount of surgery
6 and despite the theoretical chances that we should
7 be able to improve this baby, we were not achieving
8 that objective and things were getting worse and I
9 judged that the irregularities that were going on,
10 at least at that time, were related to the congestive
failure.

11 Q. Do you have any opinion,
12 Doctor, as to why, in light of the surgery that had
13 been performed, you were not able to control the
14 heart failure?

15 A. I think that the operation
16 of banding of the pulmonary artery is not one that
17 even Dr. Trusler would regard as an operation that
18 he admires as one of having great precision because
19 it amounts to a problem of choosing the degree of
constriction of that vessel.

20 Q. Yes.

21 A. That is going to help the
22 baby immediately but not be too tight in another
23 month, because if it gets too tight then the blood
24 goes in the opposite direction. It will go from this -
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since it can't get out the pulmonary artery, it will go from right to left and then you end up with a blue baby.

So, it has been traditionally a very difficult area. Some people regard it as more art than science, but I think Dr. Trusler has a big experience with this and has in fact been one of the people who has devised methods of trying to improve the predictability of response. But I think in this case this was one that just wasn't, didn't for one reason or another work out as well.

Q. Doctor, you have referred to the digoxin administration and the level that was recorded at that particular time and, indeed, the levels that are disclosed in this chart are not of any particular concern, are they?

A. I don't believe they are, no.

Q. But there is one aspect of the digoxin program of this child that I would like to look at with you, if I may.

A. Yes.

Q. At page 152 of the chart, it is one of the starting pages of doctor's orders and understandably a host of orders given on the date



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of the child's admission, but of the first block of those orders, No. 14 talks about digoxin to be administered intrevenously and sets out the three diging doses which are to be administered.

A. Yes.

Q. 0.48 milligrams and two of 0.24 each.

MR. TOBIAS: Excuse me, Mr. Commissioner, if my friend could be of some help in describing the documents that he is now referring to. I just noticed that our chart is not numbered. We can't find the page.

THE COMMISSIONER: It's not numbered at all?

MR. TOBIAS: No, not at all.

THE COMMISSIONER: Oh!

MR. LAMEK: That's unfortunate, and I'm sorry. It is headed "The Hospital for Sick Children - Doctor's Orders". In fact, it says "Continuation", but it appears to be the first sheet of the orders.

MR. TOBIAS: All right, thank you.

THE COMMISSIONER: I am wondering if we can't ---

MR. LAMEK: We are seeing if there



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is another copy available, Mr. Commissioner.

MR. TOBIAS: All right, we will
do the best we can with the copy.

THE COMMISSIONER: Did anyone else
not get them numbered? I guess this some particular
bias against you, Mr. Tobias.

MR. LABOW: Mr. Commissioner, it
is because we are here to represent Barbara Gionas'
parents and we received this copy many months ago.

THE COMMISSIONER: Oh I see, oh,
yes, that's the answer then.

MR. LABOW: Right after this
Commission, and it wasn't numbered at that time.

THE COMMISSIONER: Oh yes. Well
then, I take everything back I said, that I said
silently about those boys who had been numbering
those pages.

MR. LAMEK: Q. Doctor, can you
comment for us please on the size of the digitalizing
doses that are there specified on page 152?

A. I'd have to do some calcula-
tions knowing the weight. Have we got a weight
somewhere here?

Q. Let's see if we can find
this baby's weight.



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Page 27, does that look like 2900
grams?

A. Yes. Sorry to hold you up.

Q. 2.9 kilograms?

A. Yes, that dose seems
appropriate.

Q. Okay. You told us the
other day in the context of a digitalizing dose
which had been administered at another hospital
that the tendency at the Hospital for Sick Children
was to be somewhat conservative in calculating
digitalizing doses?

A. Yes, it is.

Q. And does this dose conform
to the conservatism with which you have told us?

A. Yes, because the description
of the dose is 50 micrograms per kilogram but it is
two-thirds of that amount.

Q. Yes.

A. They've reduced the amount
by two-thirds because it has been given intravenously,
which is our standard practice.

Q. Now, on the next page, page
153, there is the order, again on the 23rd of January,
for the maintenance dose of 0.1 milligrams IV every



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12 hours. The first of the digitalizing doses was apparently administered by Dr. Eng at the time of admission. The medication sheet at 174 seems to record the first dose having been administered ---

THE COMMISSIONER: The medication of treatment record.

MR. LAMEK: I'm sorry, Mr. Commissioner?

THE COMMISSIONER: Is that medication of treatment?

MR. LAMEK: Medication of treatment record.

THE COMMISSIONER: Page 174.

MR. LAMEK: Q. Indeed, he seems to have given the second dose of 0.24 milligrams, but indeed, Doctor, if you were to turn back from there to page 28, it seems that at one o'clock in the afternoon digoxin 0.048 milligrams given IV by Dr. Henry Eng. So, he seems to have administered the first two doses, does he not; one o'clock in the afternoon and then second, according to the medication sheet, at 7 o'clock in the evening.

A. Yes.

Q. Right.

A. That's the way I read that.



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Q. Yes. Okay, so, we've got the child digitalized by the time we get to the 24th of January, and there is no order at that time, as I look at the Doctor's orders back at 152, 153, for a digoxin level to be taken.

Now, Doctor, I think we have seen in other cases that upon completion of, or shortly after completion of the series of digitalizing doses, it has not been unusual to call for a digoxin level, has it?

A. Yes.

Q. Would you describe it as good management to call for a digoxin level at that stage?

A. I think so.

Q. Yes. Now, I don't see an order to that effect here, but let's go on a little way. The first reference that I do see to a digoxin level is on page 160.



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At the bottom of the page under date 3/2/81,
February 3, digoxin level noted, digoxin may be
continued, please check level Thursday.

THE COMMISSIONER: What page is
this?

MR. LAMEK: Page 160, sir.

Q. And, in fact, Doctor, when
we come to that level, it is not going to be a matter
of any serious concern, but it appears, does it not,
from the medication sheets, and they are at page 175
and following, that with only occasional and short
interruptions, digoxin was administered continuously
to Baby Gionas from the time of her arrival in the
hospital through until that date of February 3rd
and thereafter, and I am interested in February 3rd
for the moment, there is a morning dose withheld on
January the 30th, as I read the chart.

A. 29th.

Q. 29th or the 30th. I am
looking at page 175, I believe, of the medications
record, Doctor. It seems to indicate from the top
of the line that doses were administered 26th, 27th,
and then half way down the page, 28th, 29 twice,
morning of the 30th held. And then in the afternoon
it is noted times change; do you see that?



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A. Yes.

Q. When I go over the page,

they continue on the 31st, half way down the page, the 1st of February, the 2nd of February, 3rd of February. Essentially continuous in administration of the drug.

Now, in that period, Doctor, I look now back to the progress notes, in the period from the 26th of January until the 3rd of February when the first level appears to have been taken, there was, was there not, on January the 30th, page 41 of the chart an episode of tachycardia, the ICU note in the middle of the page?

A. Yes.

Q. On February the 2nd, at page 43, an episode, one-third of the way down the page, of bradycardia, the one that you yourself referred to earlier?

A. Yes.

Q. And it is only at that stage that the reference is made a little lower down that page, "Check dig level in a.m."?

A. Yes.

Q. Now, in fact, as we know and as you have pointed out to us, Doctor, when the dig



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level was checked, and we can look at the record,
the biochemistry report starts at page 225,
and the level in question is on page 229; it is
the first digoxin level reported by the Biochemistry
Department. February 3rd, 1981, a sample drawn at
9:30 in the morning records the digoxin level at
2.3 nanograms per millilitre.

A. Yes.

Q. Not a level to be greatly
concerned about, Doctor?

A. No.

Q. But would it not have been
appropriate in your judgment, especially in light
of the episode of tachycardia at the end of January,
to have taken a level some time before 11 days after
this baby had been started on the drug?

A. Yes. I think myself that
in small babies it would be advisable at the end of
digitalization to take a level. I think I have
said before, however, that some people do not always
agree with that and there is a lot of debate, and
would suggest that they would treat the patient
with the digoxin and then if they developed any
signs to suggest digoxin toxicity, they would take
the levels then. But I think that it is prudent to



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obtain levels on the way.

Q. Now, the levels that are obtained thereafter, there is one on page 230, two days later, exactly the same level, 2.3, again not a matter of any particular concern.

Thereafter, we have got much more frequent samples. We have got on page 232 a level of a sample drawn on February 17th of 1.4; on page 234, levels of 2.1 and 1.9, on February 24 and March 2; and on page 238, a sample drawn on March 7th as you pointed out earlier, Doctor, a level of 1.2.

Interestingly, I do not know when those results were reported. They are flagged, and therefore it says were reported -- the date on the report is March 10. March 10, of course, the baby was dead.

A. Yes.

Q. I take it, Doctor, that we can agree, notwithstanding recorded levels of 2.3 and so on, those levels do not give cause for any any concern about toxic effects resulting from the prescribed doses, do they?

A. No, and with the degree of heart failure, there would be reluctance to



L5

unnecessarily reduce the dose.

Q. But as you have also pointed out, Doctor, if I can go back to page 75 of the chart, the question had been properly raised -- sorry, pages 73 and 74, had been appropriately, properly and prudently raised in the light of the observations that were being made around the 7th of the month, whether there may be some toxicity, and the level was taken and did not give any indication that that was the cause.

The question, however, had been raised on page 75 of the report, of the record, the nurse records having drawn the blood because of the query of digoxin toxicity that had been raised, and we know that the child had been vomiting, and we know there were these arrhythmias; we know that they were investigated with the proper suspicious and prudent attitude and did not appear to be any difficulty.

Now, on page 77 we come to the last few hours of the baby, and perhaps the night shift nursing note written by Nurse Trayner should be read first. It is in the lower half of the page because it narrates the occurrences of the period preceding the arrest:



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"Barbara's apex was irregular at the time..."

This is covering a period from 1930 to 2400, 7:30 in the evening until midnight. Therefore, I am not quite sure what "at the time" means.

"...and remained irregular thru out the night. Apex irregular in that it was much slower (130) with short pauses. ECG strip showed 'sinus arrest'."

Can you tell me what that means, Doctor?

A. I think that means she did not see P waves.

Q. Yes.

A. That could be interpreted a number of ways. It might mean that the junctional rhythm took over at certain points. You know, I have not seen the tracing and I am interpreting something that she has written there in another way, but I think it indicates there was some change in the rhythm because she talks about short pauses, and that would be compatible with a junctional rhythm which is usually at a slower rate.

Q. I see. If the heart is in sinus rhythm, you will see the P waves?



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A. Yes.

Q. If it is in junctional
rhythm, you may not see them?

A. You may not see them, and
the rate is usually slower. Regardless of what the
original rate is, it is somewhat slower.

Q. So what she appears to have
been seeing, then, is (a) a slower rate, (b) you
infer from the reference to short pauses an
irregular rate, and (c) perhaps interpreting what
she has recorded as sinus arrest, perhaps junctional
rhythm?

A. Yes, that would be the best
that I could say without having a piece of the
strip.

Q. "She had tolerated 15 cc of
formula by mouth at 2130 and had
voided in small amts. She was
extremely restless all evening and
was very hard to settle. Did not
settle in nurse's arms. At 0045 she
was to be..."

Is it "fed"?

A. She was to be fed.

Q. "...she was to be fed. She



L8

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"refused oral fluids..."

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"Oral" what? I thought that was fluids, maybe it is
4 not. Feeds by mouth?

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A. "po feeds, yes".

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Q. "...so she was being supple-
7 mented by nasal gastric tube. She
8 had had only 3 cc when she became
9 increasingly restless and became very
10 diaphoretic. Team Leader was notified.
11 Also within minutes of calling Team
12 Leader Barbara's apex started to fall
13 and she was noted to be very brady-
14 cardiac. A '23' was called for
Dr."

15 Is that Soulioti?

16

A. I think so.

17

Q. It seems to have found an
18 extra "t" somewhere?

19

A. Yes.

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Q. Now he gave something, and
21 I think I am going to have to look at the original
22 chart on this because they are absolutely blacked
23 out at that stage. He gave, and he has written it in
24 a different colour in the chart, he gave lasix
25 and atropine.



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"At 0100 hrs. baby found to be
asystolic - cardiac massage started;
a Code '25' called. Further medical
management see Doctor's notes above.
Baby pronounced dead at 0145 hrs.
March 9, 1981. Parents were notified..

There seems again, to be a bit of an interval between
whatever Dr. Soulioti did, the administration of
the lasix and atropine --

A. Atropine, yes.

Q. -- and what was observed at
one o'clock. We do not know how much of an interval
there was there?

A. No.

Q. Okay, Dr. Rowe, I will ask
you the usual two questions. Are those events and
their onset and course consistent with what you
knew of the child's clinical condition and anatomical
condition?

A. Yes, I believe they are.

Q. To the extent that they
include bradycardia and presumably some interference
with the conduction system, if your interpretation
of junctional rhythm is correct, changes in rhythm,
are they also consistent with digoxin intoxication?



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A. Yes.

Q. When you learned of this child's death, and I take it it was discussed at the normal meeting in the morning?

A. I presume so.

Q. Did you consider that it might be anything other than a natural death caused by the child's congestive heart failure?

A. No, I did not.

Q. Have you reconsidered that view at any time since then?

A. No, I still take the position that the most likely cause of death is heart failure. The question of infection, I cannot speak to as a super added issue, but I think that the predominant feature was heart failure.

Q. Doctor, it may be that I was looking at this chart very late at night, but as I look at page 20 of the record -- you do not have to turn to it particularly -- it is recorded by Dr. Schaffer that consent for postmortem examination was obtained. I do not seem to have found in the chart an autopsy report.

Now, I do not know whether it is there and I have merely overlooked it, and it is



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entirely possible, I assure you, or whether it is
not there? Do you recall seeing one?

A. I was under the impression
there was no autopsy.

Q. Well, until I went back and
looked at that note, that had been my impression too,
I have to say, and I take it you have no recollection
of whether there was or was not autopsy in this case?



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A. As far as I am aware there was none.

MR. LAMEK: Well, maybe, Mr. Commissioner, I could have my usual quiet conversation with Mr. Roland at a later stage.

THE COMMISSIONER: Yes.

MR. ROLAND: My understanding, Mr. Commissioner, is that there was no autopsy on this baby.

MR. LAMEK: That is fair. Thank you.

Q. Was the death reported to the coroner?

A. No, the death was not reported to the coroner.

Q. Did you subsequently, Dr. Rowe, become aware that this child's body was exhumed, and that on autopsy of the exhumed remains of the child, samples were sent to the Centre for Forensic Sciences for digoxin assay?

A. I became aware later, yes.

Q. Did you ever have any information as to the results of those assays?

A. I don't remember whether I have or not. If they were in the hearing, they were probably in a list of other things that I saw.



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Q. I don't believe there was reference to them at that time. Certainly Dr. Bain doesn't make reference to it. So you have no recollection?

A. I don't have any recollection.

MR. LAMEK: Yes. Thank you.

THE COMMISSIONER: Are we moving to another one?

MR. LAMEK: Yes, sir.

THE COMMISSIONER: It is now 25 past 12. Would this be -- you now have three left; is that right?

MR. LAMEK: I have three to go.

THE COMMISSIONER: You would prefer to do one now, would you?

MR. LAMEK: Mr. Commissioner, it makes absolutely no difference to me. Perhaps, as Mr. Scott suggested yesterday, we should ask Dr. Rowe. He is the poor chap who has been sitting here and answering questions.

THE COMMISSIONER: Would you like to have a mid-day break?

THE WITNESS: I think I would appreciate a break now.

THE COMMISSIONER: Yes. We can either



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have a break now and then go at that one or we can
take lunch now. All in favour of lunch now? All
opposed to that prospect? Well, at least we have a
difference of opinion this time but I am afraid you
are badly outnumbered.

I think we will go until a quarter to
two -- would quarter to two give you enough time or
you may run out?

MR. LAMEK: That will give us plenty
of time this afternoon. Yes, we can deal with the
rest this afternoon.

THE COMMISSIONER: We will break off
then until a quarter to two.

---Noon adjournment.

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--- On resuming at 1:45 p.m.

THE COMMISSIONER: Yes, Mr. Lamek.

MR. LAMEK: Thank you, sir.

Q Dr. Rowe, before we move on to Gardner, there is something that I think in fairness I should clear up and that is going back to the Gionas case for a minute.

I had asked you about an apparent course of management of that child who had been started on digoxin when she arrived at the Hospital but apparently no level was reported on her digoxin until some 11 or so days later.

It is true to the best of my knowledge that no level is reported in the Biochemistry reports that were in the chart until that date, but Miss Cronk has pointed out to me that (and this is Exhibit 45, sir, from the Preliminary Inquiry, page 7 of the digoxin book, maintained in Dr. Ellis' lab) that on January 30th there was apparently a sample received from Baby Gionas from the ICU, a sample of arterial blood in which a level of 2.1 was recorded.

That, Mr. Commissioner, is Item H on the right hand side of that sheet, page 7. Do you see it?

THE COMMISSIONER: Yes. Yes.



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MR. LAMEK: Q And I will show that
to you, Doctor.

A. Yes, I see it.

Q And although that is not in the
chart that I have seen from the Hospital, I think it
should fairly be pointed out that there was it seems
some inquiry and some satisfaction as to the level
in the child before the date of the first report that
I had seen.

A. Yes.

Q Can you think of any reason,
Doctor, as to why that would not be in the baby's
record?

A. I have no idea.

Q The fact that she was in the
ICU at the time should not make a difference, should it?

A. No, it should not.

Q The chart follows her,
doesn't it?

A. Yes, it does.

Q Well, apparently there was
some sort of either a possible breakdown in the
communication by way of paper in the Hospital -
perhaps the paper has been mislaid on the chart's
several travels since that time.



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A. Could be.

Q. Yes. Okay, Doctor. Can we
come then, please, to Baby Gardner.

Did I give you a copy of that chart?

A. No, you did not. Thank you.

Now Charlon Gardner was born
February 25, 1981. She was admitted to the Hospital
on March 13th, 1981 and she died at 4:30 in the
morning of March 18, 1981. She was on Ward 4A,
Doctor?

A. Yes.

Q. There is a diagram of her
heart behind you and to your right. Does that from
your review of this chart with some reasonable
accuracy set out diagrammatically the heart of that
child?

A. Yes, I think it does.

MR. LAMEK: May that be the next
exhibit, please?

THE COMMISSIONER: Exhibit 121.

--- EXHIBIT NO. 121: Heart Diagram of
Charlon Gardner.

MR. LAMEK: Q. Would you please
describe the anatomy for us, Doctor, and point out
the anomalies.

A. I will.



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Now this baby had a very severe cardiac malformation which is best related I think to the tretalogy of Fallot blue baby type malformations. That is probably the simplest and closest description of the detail.

In that sense there was a ventricular septal defect between the pumping chambers. There was in addition I gather a small atrial defect or an atrial defect at the top level. There was an aorta which was coming off in its usual position, but there was no true main pulmonary artery or pulmonary artery arising from the right ventricle. Normally the right ventricle as you remember gives rise to the pulmonary artery, which bifocates into branches going to the right and left lung.

In this right ventricle there is no outlet to the lung, and the only way blood gets to the lung is through this very unusual route that is demonstrated in these two positions here.

This is a condition called bilateral patent ductus arteriosus with origin from the end of each ductus of the pulmonary arteries.

There is no confluence of the pulmonary arteries.

Normally the pulmonary artery branches



AA.5

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2 should move into this area (indicating) as you see
3 there, and then descend to the outlet portion of
4 the right ventricle. But there is no central
5 pulmonary artery and there is no main pulmonary
6 artery.

7 There is just distal or intrapulmonary
8 vessels that are connected to the ductus arteriosus
9 on each side.

10 The left lung is supplied through
11 this ductus and the right lung is supplied through
12 this ductus (indicates).

13 A representation of that appears as
14 was seen at autopsy. Angiographically, that is at
15 the time of the cardiac catheterization and angio-
16 cardiogram, this area was examined in considerable
17 detail because of that arrangement, and it looked as
18 though this left sided ductus was a reasonable size,
19 although it was a bit narrowed where it joined up
20 to the pulmonary arteries for the left lung.

21 On this side we couldn't opacify
22 the right pulmonary artery at all, so that we
23 concluded that this ductus was shut.

24 It turns out at autopsy that it was
25 marginally patent. That is they could push a little
probe through it, but it was obviously not functioning.



AA.6

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2 The only blood supply to the right
3 lung was through intracostal artery and collateral
4 vessels, vessels that take over the function to
5 some degree of vessels in the lung when the vessels
6 in the lung are missing, and those are not repre-
7 sented on this slide. So the situation is a very
8 precarious one.

9 The venous blood normally comes into
10 the right side in the usual way. Since it can't get
11 out to the lungs from the right ventricle it goes
12 across the ventricular defect, joins any blood that
13 comes through the lung and gets pumped out into the
14 aorta. Then it goes out through these ductus
15 channels to each side. And that amount of blood
16 comes back after having traversed the lung and is
17 highly oxygenated, and then comes back this way.
18 Some of it goes through there, but it generally
19 mixes over on this side.

20 Now obviously the whole thing is
21 very dependent upon how this rather treacherous vessel,
22 the ductus, behaves.

23 In the first study, the study that
24 was done on this youngster initially we couldn't see
25 anything going through this side. We could just see
it through collateral thin vessels. We could see



AA.7

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2 however, the left lung supplied in this way through
3 this constricted ductus.

4 The whole future of the baby is
5 dependent upon the ductus staying open, and
6 traditionally and regularly that is not generally
7 what happens, so the lesion is truly a ductal
8 dependent lesion, and the problem is that it differs
9 from the ordinary tetralogy of Fallot with pulmonary
10 atresia where the valve - that valve is shut off and
11 the vessel is small in that there is no place you
12 can shunt blood to increase the blood supply as you
13 would normally do if you had an ordinary standard
14 tetralogy malformation.

15 Because these vessels are within the
16 lung there is none of the part of the pulmonary
17 arteries to which we usually make the attachments
18 surgically of these vessels and cortices and things
19 that I have mentioned before.

20 So the only possibility is to try
21 to keep the ductus open for as long as possible and
22 then to perhaps resort to some attempt at surgery
23 if that is not successful, but it is a very bleak
24 outlook unless the ducts can be retained.

25 Theoretically if you could do that
for a long period of time those vessels might grow



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a bit further and you might be able to put some sort of patching arrangement in there that would be more like the standard operation, but I think generally speaking we would regard that as a condition for which it would be very hard to believe surgical operation could be made especially as it is a very young baby.

Q Doctor, I didn't hear you explain what the tube or pipe is supposed to represent on that. Did you do so? There seems to be something leading from the right atrium up somewhat short of the aortic arch there.

A. Thank you for that point.

Q I take it that wasn't naturally there on this baby?

A. That actually is naturally there.

Q Oh, is it?

A. That is a condition called a left superior vena cava which drains behind the heart into the coronary sinus which is the venous return of blood that is supplied and nourished the heart muscle. That drains into the right atrium normally there by a vein that collects from coronary vessels here, but sometimes there may be a left sided superior vena cava just as there is a right sided one, and it drains into the coronary sinus.



AA.9

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It has absolutely no importance at all in this condition and it doesn't affect the circulation in any way.

Q Because it is depicted as being cut off at both ends I thought something had been implanted into the child?

A I agree it looks like we have been up to something.

Q I thought maybe we had found a new cause of death for this baby.

Doctor, thank you. Can we look at the discharge report, please, on page 16 of the chart, summary of her course at the Hospital. In light of what you have told us of the history of this child at the age of what, 18 days when she presented at the Hospital it is even more surprising reading. 20 days old according to this.

She was admitted because she was cyanotic. She had been feeding well; no signs of respiratory distress.

Apart from a mild duskiess there doesn't seem to have been any observed problem with her during the first two to three weeks of her life, does there?

A. No.



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BB

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Q. She is, I gather, a small baby

BB/wb

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for her age, heart rate 140 regular, respiratory rate

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45, she has no fever, has equal blood pressure in right

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arm, right leg, fontanelle is the space between the

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plates of the skull, isn't it, Doctor?

7

A. Yes.

8

Q. But she has marked central and
peripheral cyanosis, no clubbing, good air entry, no

9

adventitious sounds, she has a systolic murmur and a

10

continuous murmur, what's that, Grade II/VI at the

11

left upper sternal border. Her pulses were easy, her

12

liver is two centimeters below the right costal margin.

13

Is that a surprising set of symptoms

14

at the age of 18, 20 days for a girl with the kind

15

of difficulties you've described?

16

A. Well, as long as the duct is

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open and the murmur, this continuous murmur is the

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noise made by blood passing through that duct, they

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very frequently are better off than other babies who

have less severe obstruction.

20

Q. Amazing.

21

A. Strangely enough, yes.

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Q. Okay, she's admitted,

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electrolytes and blood sugar are normal, PO₂, that

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doesn't look very startling, does it, in room air?

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A. No, that's much worse than the general appearance would have suggested.

Q. And in even 100 per cent oxygen it doesn't look very exciting either, does it?

A. No, that severe desaturation.

Q. Yes. Chest x-ray shows a large cardiothymic shadow. Could you explain that for us, what is cardiothymic shadow?

A. That's a little cardiological lingo that where they, any small baby, where we can't see the edges of the heart because of a large thymus gland over-sitting the top of the heart, sitting over the top of the heart, people sometimes refer to it as cardiothymic because it is both structures and they want to indicate that in their comment.

Q. Thank you. Decreased pulmonary vasculature, on ECG a left ventricular hypertrophy.

She undergoes catheterization and the results you have told us.

She started on digoxin and diuretics, and I take it from that that she was considered to be in heart failure.

A. I think that must have been the case.

Q. And prostaglandin is started



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A. Yes.

Q. And unfortunately, she suffers a number of side-effects from the prostaglandin and the result that infusion rate was reduced, was it not?

A. Yes.

Q. Yes, the next paragraph:

"On her fifth day of hospitalization with the prostaglandin infusion running at $\frac{1}{2}$ the above dose, because of the side-effects, she became increasingly bradycardiac and soon developed ventricular fibrillation and she did not respond to CBR."

What is CBR, is that the same as CPR or is it something different?

A. CPR I think.

Q. The monitor, and I take it that is the cardiac monitor, was reading in the low 20s.

A. I think that refers -- she must have been on a transcutaneous oxygen electrode. There is a method of obtaining oxygen measurements through a skin electrode.

Q. That's referring to her saturation, obvious saturation of the blood?



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A. Yes, it would be the oxygen tension in the blood.

Q. And that's confirmed by the ECG?

A. Yes.

Q. The final cause of death, as is indicated in this report, to have been "Ventricular fibrillation secondary to the above complex cyanotic heart disease, extreme hypoxia."

Do I understand that to be saying that ventricular fibrillation was caused by the complex heart disease and extreme hypoxia?

A. Yes, I think that's the interpretation of that remark.

Q. Now, Doctor, is there anything of particular significance to which our attention should be drawn in considering this baby's death?

A. I think the anatomy is clear and what had to be attempted is clear. The main problems that arose there were two; one related to the prostaglandin, if it's a side effect of the prostaglandin. They produce symptoms of fever and they produce tachycardia and they can produce apnea as well. But tachycardia is, in this situation, bad because it means more work for an already stressed heart.



BB.5

Q. Yes.

A. And, of course, the fever itself is contributing by increasing the metabolic rate by the baby, so, that was a problem.

Yet, any attempt to lower the prostaglandins, as I read it here, led to serious difficulty. I think there is a record, but since I didn't have a numbered copy, of course, I can't remember exactly where that is. But I think it is on -- it's a little distance along. I struggled with this for a while but it is on the 18th, or the 19th. I think it is the 18th. It would be page 56, I think. I'm jumping a little bit but I really just want to draw attention to the problem that the physicians were having.

Q. Yes, fine.

A. With keeping the duct open and trying to avoid the toxic, at least the complications of the material they were using.

As you can see, it says at 3 ccs. an hour which is a fairly moderate dose of the prostaglandins. They were getting a fast heart rate at 205, fever, and the oxygen tension was in fact only 28.

Now, the oxygen tension might have been more than that because it's a transcutaneous



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measurement with not quite the degree of accuracy
that the arterial measure has, but it certainly
wasn't terribly encouraging.

Q. Yes.

A. And then when the amount of
the medication is reduced the temperature comes down
a little but the oxygen tension drops. The heart rate
improves but there is a blood gash you see that is a
bit higher than those transcutaneous measurements
suggested. It says 37 as opposed to what one might
see on the --

Q. Yes, 13 to 22.

A. Yes, 13 to 22.

Q. Yes.

A. And then even at that dose the
baby had an apnea episode, which is a complication
again of the prostaglandins. I think there is another
note somewhere to show that the murmur disappears
when the dose is reduced too far. On this particular
sheet that isn't the case but I think there is another
note somewhere else to that effect.

So that it means that they are faced
all the time with the problem of fighting the
complications of this treatment and the penalties of
not providing something to keep the ducts open.

Q. Yes.



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A. And that's the impression I get as they go through this exercise for the next several days.

Q. Does the monitor reading in the low 20s, as recorded in the discharge report, and we should I know go to the real source of the report, but does that reading suggest in any way that the patency of the ductus was suffering at that stage?

A. Yes. I think that even with prostaglandins it looks as though not enough aperture was being provided to allow an optimal amount of blood to get through the lung.

Q. Okay. The course appears to have been fairly steadily and not too gently downwards on a reading of the progress notes, does it not, Doctor?

A. Yes.

Q. You proceed through the progress notes to the arrest note. There may not be too great a point in doing that or dwelling upon things, I think you have chartered the course and stated the difficulties clearly enough.

A. One thing that I didn't mention, Mr. Lamek, was that on page 54, the pediatric resident, in addition, noted a liver that was six centimetres below the right costal margin.



BB.8

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Q. Yes.

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A. Now, there are other measure-

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ments there that don't seem quite so big. He says in

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moderate failure a six centimetre liver would suggest

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fairly marked failure.

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THE COMMISSIONER: Where will I find
that, I'm sorry.

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THE WITNESS: Page 54.

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MR. LAMEK: Page 54, bottom half of

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the page, sir.

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THE WITNESS: It's a note.17/3/81,

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1600 hours.

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THE COMMISSIONER: Yes, yes all right.

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TEH WITNESS: And about four lines

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down he's talking about the murmur and then it is
liver down six centimetres.

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THE COMMISSIONER: Oh, I see, oh yes.

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THE WITNESS: And he concludes because

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of the weight gain and that sign that the baby has got

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some heart failure and he gave some diuretic at that

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point.

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It's a little puzzling to see why the

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baby was going into failure unless it was from the

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hypoxia because usually this condition is not associa-

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ted with heart failure. It's because there is not

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much blood going to the lung. But it may have been because of the hypoxia which is very marked but that was beginning to have some effect on the heart muscle.

Q. Doctor, just before we leave the death note, the discharge note.

A. Yes.

Q. At page 17, the second page of that discharge report I note something that I don't recall having seen in other records and that is copies going to, in that case, Dr. Kobayashi, Garfield, Freedom and Fowler. Why do they all receive copies of this discharge report, do you know?

A. Normally the discharge report is sent to the physician who is the HSC physician. This is the old format from the discharge report but normally a copy of the report in the first instance goes to the HSC referring physician and a copy would go to the Ward Chief and a copy would be sent to the family or referring physician and a copy usually goes to the resident.

Q. I see, okay.

A. And those things are usually put up at the top of page 16.

Q. All right, I just hadn't recalled seeing that before.



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A. No, it is usually not at the bottom as I remember it, it's at the top.

Q. Right. Dr. Rowe, I think we should, however, look at the final status of this child's progress and at the terminal events and the on-set of the critical symptoms here.

A. Yes.

Q. Because although, if I understand you, you are saying that this child's death, the time that she died, and indeed the manner of her death, are all entirely consistent with her condition?

A. Yes.

Q. That, of course, is not necessarily the same thing as saying that they were caused by her condition.

A. Yes.

Q. So, therefore, I think we have to look at them to see if there may be some other explanation for them.

You referred to the note on page 56 and the arrest note is at the bottom of page 56. Perhaps though, we should first look at the note on page 57 starting halfway down the page. It is the long night nursing note for the nights of March 17th -- starting March 17th, 1981. Those notes record the



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vital signs: temperature was up, it's mid-night --
something, now I've got trouble with that word, down
38.2.

MR. PERCIVAL: Sponged.

MR. LAMEK: Sponged, thank you, all
right.

Q. The temperature came down to
38.2. The apex 178 - 162 and regular until 0330 hours
in the morning when the rate went down to 122 and was
very irregular. At that point, Dr. Kobayashi was
called.

Respirations ranging between 70 and
50 with two apneic spells. Noted rate down to 37,
on one occasion, rapid and shallow at first then
changed to gasping type.

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BN.jc
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The IV is infusing at 2-1/2 cubic centimetres down to 2 cubic centimetres because of apneic spells. Nutrition - drinking eagerly and tolerating drink well. Voided 90 cc.

3:35, the incident that I think is referred to in the third and fourth lines of the note, the apex drops to 122 and is very irregular, and Dr. Kobayashi is called. The baby goes into ventricular fibrillation, flutter, and at 3:45, a Code 25 is called and the arrest team arrives three minutes later. They intubate the baby and then Nurse Scott refers us to the CPR sheet and the arrest note. CPR is terminated, she says, at 4:25 in the morning.

A. Yes.

Q. Now, if we turn back a page to the arrest note, it starts at the lower half of page 56, it records it at 3:45 the code was called; indeed, that is entirely consistent with Nurse Scott's note on the following page, and records the underlying problem:

"Previous sinus rhythm progressed via junctional rhythm, AV block to extreme bradycardia gasping respirations.



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"CPR commenced immediately with external cardiac massage and mask ventilation. Intubated/ventilated via ETT (the tube) at 7 min.

"- no response to Atropine during initial bradycardia."

Now, I cannot read the next line except as far as it goes to the sodium bicarb.

A. Peripheral IV.

Q Thank you, peripheral IV, and lists the cycle of drugs administered. No response, pupils not responding to lights at 15 minutes into the resuscitation.

So adrenalin is administered directly into the heart at 20 and 30 minutes, and still there is no response, and after 40 minutes, resuscitation effort ends with no improvement from the extreme bradycardia and asystolic, pupils remaining fixed and dilated.

Now, Doctor, because we have there a number of those symptoms which I recognized as being consistent with digoxin intoxication such as AV block, bradycardia, change in rhythm, irregularity, ventricular fibrillation, that whole sequence and pattern of heart rate changes and irregularities,



CC.3

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I have to ask you are those events and their onset
and course consistent with digoxin intoxication?

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A. Yes.

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Q. Now, this baby died March the
18th at a time when, as I have understood your
evidence with respect to Hines and particularly
Pacsai, members of your Division were, do I put it
fairly, becoming concerned about what was happening
and questions and suspicions were now being raised
at about this time?

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A. Yes.

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Q. Was any question or suspicion
raised with respect to the death of Charlon Gardner?

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A. I do not believe so.

15

Q. Notwithstanding the particular
pattern of arrhythmias at the time of her death?

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A. No.

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Q. That was regarded as entirely
normal in the circumstances of her clinical condition?

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A. Yes.

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MR. ROLAND: Mr. Commissioner, before
Mr. Lamek starts with the next baby, Mr. Percival
this morning asked for the patient incident report
for Baby Inwood, and we have now found that and have
provided him with about 20 copies of it.



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THE COMMISSIONER: Thank you. Have you got another, Miss Fineberg?

MR. LAMEK: I am going to pass this one up to you, sir.

THE COMMISSIONER: I see, all right.

MR. LAMEK: Q Dr. Rowe, is that a copy of the Incident Report that was referred to this morning in our discussion of the Inwood case?

A. Yes, it is.

Q Thank you. And is that the form in which incident reports are normally prepared and completed in the Hospital?

A. Yes.

MR. LAMEK: May that be perhaps appended to the Inwood child's medical records, sir?

THE COMMISSIONER: Yes, that might be. That is 113; 113-A perhaps. What is the title?

MR. LAMEK: Patient Incident Report re Kristin Inwood, I take it. Yes.

--- EXHIBIT NO. 113-A: Patient Incident Report re Kristin Inwood.

THE COMMISSIONER: I have forgotten now why we wanted that.

MR. LAMEK: It was in respect, Mr. Commissioner, of the accidental administration of an over large dose of digoxin to that child referred to



CC.5

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by Dr. Bain in his report.

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THE COMMISSIONER: Oh yes.

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Could we come, please, to the second last of the deaths with which we are concerned in this period, that of Allana Miller, who was born March the -- when was she born, I am sorry?

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A. 24th.

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Q. March the 24th, 1980. It could not have been March the 24th -- of '80, yes, that is right. Was admitted to the Hospital March 19th of '81 -- that was what was confusing me -- and who died March the 21st, 1981 on Ward 4A at 3:27 in the morning.

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Now, Doctor, we have a diagram of Allana Miller's heart. Can you tell me first if it is a reasonably accurate diagrammatic portrayal of the heart?

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A. Yes, I think it is.

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MR. LAMEK: The next exhibit, please, Mr. Commissioner.



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THE COMMISSIONER: Yes, that is 122.

--- EXHIBIT NO. 122: Heart Diagram of
Allana Miller.

MR. LAMEK: Q And could you describe
the anatomy for us, please, Dr. Rowe?

A. Allana Miller had a very
complicated defect or series of defects.

I think we perhaps could start with
the first, which is that there is a common atrium. In
other words, there is no wall between the two chambers
at the top of the heart. The left atrium and right
atrium are just one big chamber, and that is referred
to technically as a common atrium.

Then associated with that are a
number of other abnormalities, principally that there
is an inferior vena cava that instead of coming up
in the usual way and joining the right atrium at its
inferior portion or bottom part, travels up behind
the heart and joins into the superior vena cava. The
part of the inferior vena cava that is just before
one gets into the heart is adjacent to the liver and
accepts the veins from the liver just before it
enters the right atrium.

In this situation, this inferior
vena cava goes nowhere near the liver and the hepatic



CC.7

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2 veins or the veins from the liver drain separately
3 individually into the right atrium.

4 Now, neither of these things
5 produces any major difficulty in terms of the heart,
6 but they are just commonly associated with a disorder
7 of common atrium, which is a fairly complex problem.

8 The importance of the venous
9 abnormality in position is that it interferes usually
10 with the formation of the conduction system, and it
11 is very common to have a different position for the
12 pacemakers of the heart. So that instead of having
13 a sinus node up here, there may be two sinus nodes
14 or there may be one in some other position.

15 This particular attachment of the
16 inferior vena cava can usually be diagnosed before
17 you see the X-ray or do a catheter or anything from
18 the appearance of the electrocardiogram which
19 identifies that the pacemaker of the heart is in a
20 characteristic position somewhere over here. So
21 that these patients are a bit prone to having some
22 disturbances of rhythm in any event.

23 There are some general matters that
24 are also important in this condition. It is most
25 frequently associated with multiple spleens, and the
exact reason for that is uncertain. Polysplenia



CC.8

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2 is the term that is used, and that is associated
3 with abnormalities of lobulation of the lung and
4 sometimes with abnormalities of the return of the
5 veins from the lungs.

6 In this baby, the major problem
7 was this polysplenia with a common atrium, and at the
8 time when this baby came back for this admission,
9 there was some clinical evidence to support the
10 notion that there were changes going on in the lung
11 vascular bed. The course of the circulation in
12 this condition is that blood comes in whatever
13 way through these various channels and gets to the
14 right atrium eventually, but it completely mixes
15 with the blood from the left atrium so that you have
16 sort of a mauve-coloured blood, as it were, or maybe
17 lightly pinkly tinged. Then that blood goes down
18 into the right side of the heart and gets pumped out
19 to the lungs, comes back through the lungs to the
20 left side, and most of it will mix across here like
21 a Waring Blender, and then it comes down and gets
22 pumped around the body.

23 The usual course of events here is
24 that there is congestive heart failure. It is like
25 having a great big hole through which blood pours
all the time because it is easier for blood generally



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to go out to the lungs than it is to be pumped around the rest of the body. So there is a huge blood supply to the lung, and the response in this particular baby of developing blood vessel disease, that is, a reaction to the high pressure and flow of blood in those lungs over a long period of time like a year, was unusually early. We do not very often see pulmonary vascular disease where the vessels, the lumen through which the blood has to go starts to tighten up as I have tried to show here as young as this baby was, but that was one of the principal problems revealed.

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So it is like having a great big hole at the top level, a great big atrial septal defect. There is just no septum at all, and that means a massive shunt from a fairly early stage.

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Q. Doctor, in attempting to summarize the child's course at the Hospital on this admission, it may be useful to start with Dr. Freedom's following of the child before this admission. He had indeed followed her through a number of consultations, had he not?

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A. Yes.

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Q. At page 10 of the record, Mr. Commissioner, some of these pages are numbered twice. I think they were initially numbered by another organization that had access to them. The larger number in each case, the higher numerical one, is the one to which I am referring.

Page 10. Otherwise numbered as page 4 on this copy.

There is a letter dated March 4, 1981 from Dr. Freedom to Dr. Shaw, in Kitchener, about this baby, whom he had reviewed on March 3rd, 1981, the day before in a follow-up way.

There had been a cardiac catheter study of the child performed in October and the common atrium had been disclosed as well as the rather strange arrangement of the right sided inferior vena cava.

Arterial saturation of 82 per cent was noted at that time.

"Since I last assessed her in December, the child has been in the hospital on several occasions back in Kitchener with chest infections and bronchiolitis, and in addition, the baby has failed to gain any weight."



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Now in that period between October and December, going back to the first paragraph, Doctor, apparently she had been treated with digoxin and diuretics because it had been Dr. Freedom's view in October that she was in mild congestive heart failure.

A. Yes.

Q. So she had been on digoxin and diuretics throughout that period and you told the Commissioner yesterday it is not unusual to send a child home with that kind of drug administration program.

A. No.

Q. He then goes on to what she produces today:

"She continues to perspire excessively, has a nearly constant expiratory grunt, and remains breathless despite digoxin and aldactazide."

Her weight is 6.2 kilograms; pulse of 130, respiratory rate 35, blood pressure 92 in the right arm.

"...small slightly dyspneic and mildly cyanosed infant who is somewhat sweaty..."

And she does not appear acutely distressed.



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All right. That doesn't sound like a particularly well baby at that stage, Doctor.

A. No.

Q. He goes on to record the cardiac examination he has done. Top of the next page records that her liver is 3 centimetres below the right costal margin and there is significant cardiac enlargement and evidence of pulmonary plethora.

An EKG, "...sinus rhythm alternating with periods of junctional rhythm and with atrial ectopy...right and left atrial enlargement and right and probably combined ventricular hypertrophy. ...not progressing satisfactorily at all." Not thriving, very large heart, significant degree of heart failure, and it is now his thought that we should put her forward for early surgical intervention.

At the time the child had first been seen as I recall it Dr. Freedom had rather hoped that he might keep her going for two or three years and then bring her back for surgery at that stage?

A. Yes, I think that would be a reasonable hope.

Q. He is now proposing that



1
2 she should be put forward for early surigcal
3 intervention which would involve closing of what
4 he calls the large atrial septal defect.

5 Does that involve really in effect
6 creating a septum between the two atria?

7 A. Yes, it does.

8 Q. "For the meantime, we should
9 continue her on digoxin...and
10 aldactazide and I would anticipate
11 that Allana would be admitted within
12 the next four - six weeks for the
13 surgery."

14 So, okay. The time for surgical
15 intervention has been advanced very considerably
16 from the earlier hope in light of her condition,
17 but that is the baby that Dr. Freedom had seen on
18 March the 3rd and she was admitted on March 24th.

19 The following letter, at page 12
20 reports to Dr. Shaw that the child was discussed
21 at the medical surgical staff conference held on
22 March 9th and that they all agreed that they should
23 proceed with early surgical intervention and the
24 surgery has been scheduled for later this month.

25 There had been a catheter study
done in October and they felt that they didn't need to do



DD5

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another one at that point.

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So even four to six weeks mentioned
in the letter of March 4 has now been compressed to
a matter of two to three weeks.

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A. Yes.

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Q. The medical surgical
conference note, incidentally, Doctor, is at page
lll of the chart. Do you recall being present at
that conference?

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A. I don't recall specifically.
I am usually at that conference when I am not other-
wise engaged.

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Q. Okay. The conference
conclusions are stated there that the child
remains in chronic congestive heart failure;
multiple hospital admissions. Needs early surgical
intervention, and I, who I take to be Freedom, am
concerned about pulmonary venous connexions, partial
or total pulmonary anomalous venous return.

20

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In any event the decision is made
there that the child should go to surgery before the
end of the month.

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A. Yes.

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Q. The summary of the Hospital
course when she was admitted to the Hospital should



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DD6

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not take very long of course. In very brief compass
she did not make it to the OR, did she?

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A. No.

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Q. Was there any reason,
Doctor, for her having been admitted so much in
advance of the scheduled OR date? The surgery
was scheduled for the 29th I believe, wasn't it?

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A. Yes, she was ahead of time
because she developed symptoms in Kitchener. She
had a fever and a seizure.

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Q. Okay.
A. So the doctors there thought
she should come down and be observed and sorted out
here.

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Q. Stabilize her before the
surgery?

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A. Yes.
Q. Is that the idea?
A. Yes.
Q. In fact she came on the
19th. She died on the 21st, a week before surgery
was scheduled. Clearly not a well baby, but in the
early hours of March 21, in very brief summary,
she went into bradycardia, went to arrest and could
not be resuscitated.



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Now, Doctor, could we have, please, your comments which are a good deal more valuable on the significant parts of this chart that we need to consider in looking at the death of this child?

A. Well, she had a history of fever and seizure on the day she was admitted I think, and I think the pediatrician who referred her in from Kitchener thought she had impending heart failure and probable viral infections to account for this.

She had trouble with falling out of her bed, a couch, that day but had had no vomiting or difficulty that could be detected from those events. But I think Dr. Izukawa saw her - there must be consultation note here somewhere.

Q. There is a consultation that is barely legible on page 25, and I could not tell you whether that be Dr. Izukawa's or anybody else's.

A. It is Dr. Izukawa's, and it looks like a very bad copy of it. His writing is usually better than mine.

Q. I think I can probably help you, Doctor. There were enough of those that I brought the original chart with me.

MR. PERCIVAL: Would it be possible



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for Mr. Lamek to hand us the original, sir, because my copy of the Doctor's orders page 3 to 31, 32 which cover a very crucial time period here as far as this baby is concerned, are absent.

MR. LAMEK: I suggest, Mr. Commissioner, that what we can do is provide access to the original to --

MR. PERCIVAL: That would be helpful.

MR. LAMEK: -- to Mr. Percival and indeed anyone else. The simple truth is that blue ballpoint pens just do not photograph well, and there is nothing that can be done to improve the quality of the photocopying.

But if Mr. Percival and indeed anyone else wants to take a look at the original of anything that is illegible, of course they are entirely welcome to do it at any reasonable time.

THE COMMISSIONER: Yes, I guess that is right. I hadn't realized that in this modern day with the advances of science there are things that these great machines can't copy.

MR. LAMEK: Well, if I were to show you the original of the page we are now looking at, Mr. Commissioner, you would understand why the machine could not do very much better.



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Q. Dr. Rowe, does having the original before you help? Not hugely, does it?

A. That doesn't look like the original.

Q. It is what is in the chart, I promise you.

A. It looks like --

Q. A carbon copy.

A. A copy of the original.

Q. That is what is in the chart that was provided to us.

A. I agree it is not much to work with.

Q. Well, it may be a little more than --

A. Yes, it is more than here.

Q. -- more than a xerox copy. Could you read from it or at least refer to it?

A. I could probably abstract some of the points.

THE COMMISSIONER: What page are we on, Doctor?

MR. LAMEK: Q. We are having deciphered for us our legible page 25, Mr. Commissioner.



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A. Dr. Izukawa starts his consultation note which was written on the 17th of March - that can't be right; the 19th of March. I can't even read it myself, by saying this is a year old known common atrium and azygos continuation of the inferior vena cava with increased right ventricular pressure and aortic saturation of 82% query site of pulmonary venous drainage --

THE COMMISSIONER: Doctor, this means nothing to me at all. Will you translate it as you are reading it?

THE WITNESS: Well, he summarizes the background information. Then he said that the baby is admitted because of fever this morning and has seizures. There's a high white count; some loose stools with blood but the lumbar puncture was normal so they excluded meningitis.

The baby was cyanosed mildly to moderately.

MR. LAMEK: Q. What, mildly to what?

A. Mildly to moderately.

Q. Thank you.

A. The respiratory rate was 50 a minute and the heart rate was 78 to 100 per minute.

The electrocardiogram showed a



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junctional rhythm shifting to low atrial rhythm with rates varying from 78 to 100 per minute. That means that the pacemaker was moving from one part of the atrium to the other in the way that I have said tends to happen in this condition, so that that leads to an irregular rate.

X-ray showed the heart to be increased in size and the blood flow to the lung was increased. There was no obvious pneumonia.

There were physical signs of bulging chest wall and thrusting right ventricle and liver that was 3 centimetres below the costal margin, and then there were the murmurs that are associated with the condition of a big flow through the lung.

So he ends up by saying this is complex common atrium with pulmonary hypertension, pulmonary venous drainage - I can't read that bit - possible bacterial infection query bowel. Should have blood stool service, spinal fluid cultures and start on antibiotics.

That is the best I can do, sir.

Q. That is a heroic reading, Doctor, because the original is really not very legible.

Now that, Doctor, arose out of my



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asking you to tell us what you consider to be of importance, and you have told us about the in a sense the pre-admission important matters that we have to have in mind.

A. Yes.

Q. Is there anything else in that chart that is important that we should have in mind when considering this child's death?

A. I am looking for the resident's note. I think that they felt that sepsis was an important consideration as had Dr. Izukawa and set about that.



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I think it is mentioned somewhere that people were worried about that irregularity. I have a note that the digoxin was held because of that.

Q. The digoxin was held on March 21.

A. I think on the 19th they got a blood level at 2030 hours. So, during the night, there must have been some question about that. I can't find it. Unfortunately, as I said, I can't correlate my notes with the numbers you have.

Q. Well, particularly since the document you have in front of you with the numbers on it is apparently copied in the same sequence of the chart and there is a sort of flow sheet intrusion of three or four pages into the middle of the progress notes.

A. Yes.

Q. The progress notes, Doctor, in the numbered document that I have put in front of you run 33, 34 and 41 and 42?

A. Yes. I think the junctional rhythm and low atrial rhythm to which I referred in Dr. Izukawa's notes was the thing that probably led to holding the dig administration until the digoxin level had been obtained.

Q. Yes.



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A. And I think that on the 19th that was obtained and the value was reported to be 0.6 nanograms.

Q. 0.6.

A. So, that clearly identified as had been thought previously, this as being an arrhythm that was unrelated to the digoxin at that moment.

Q. Yes. Do you need the page references for those orders and levels, Doctor?

A. If you feel it is important.

Q. The two orders on the date of admission are at page 29. The second order on that page, first item, dig level, and the third order on that page, first item, digoxin hold for now.

A. Yes, thank you.

Q. And that level is reported at page 89 of the record - I'm sorry, 88 of the record, sample of 19th of March, '81, 0.6.

A. Thank you.

MR. PERCIVAL: I point out to you, Mr. Commissioner, that wasn't reported until about an hour after death, according to the top right-hand corner.

MR. LAMEK: Very grateful.



EE.3

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MR. PERCIVAL: Top of page 88.

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MR. LAMEK: There are two orders on

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March the 20th, Dr. Rowe.

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THE WITNESS: Yes.

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MR. LAMEK: Q At page 34, at the

bottom there it says start digoxin if level okay.

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A. Yes.

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Q And at that time of course, as

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my friend Mr. Percival has just pointed out ---

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THE COMMISSIONER: Can we just hold

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this for a moment?

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MR. LAMEK: Yes.

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THE COMMISSIONER: At page 29, the

order was made on what date?

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MR. LAMEK: The 19th, Mr. Commissioner.

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THE COMMISSIONER: And the death was

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on the 21st?

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MR. LAMEK: Yes.

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THE COMMISSIONER: The sample was taken

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on the 19th?

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MR. LAMEK: Yes.

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THE COMMISSIONER: What is this

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"results flagged and were reported today". Of course,

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today isn't an awful lot of help when we don't know

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what day they're talking about. Presumably, according

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to all the information we got from Dr. Ellis, they were reported on that day, on the 19th of March, to the floor. Isn't that right?

MR. LAMEK: Well, Mr. Commissioner, if you look at page 88 which is I think what you're doing, you will note at the top there is a date and a time 0513.

THE COMMISSIONER: Yes, but that's ---

MR. LAMEK: Now, that I take it is the time of printing of that report.

THE COMMISSIONER: That's right, and that comes out afterwards.

MR. LAMEK: That's right.

THE COMMISSIONER: But I understood, and I am really just sort of answering Mr. Percival's comment, that if this results flagged and were reported today means what I think it means, it means that there was a report to the floor in any event on the 19th of March.

MR. PERCIVAL: I take it that is an oral report as opposed to a form of written report?

THE COMMISSIONER: Oh, yes.

MR. LAMEK: I believe so, yes.

THE COMMISSIONER: That's what Dr. Ellis I think maintained took place. Although,



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the computer printout was supposed to go out every morning following and I would have thought that the 20th followed the 19th, not the 21st, but there you are.

MR. LAMEK: Well, Mr. Commissioner, if it is of any help, the digoxin book of Dr. Ellis seems to indicate that that sample was assayed on the 20th, not on the 19th.

THE COMMISSIONER: Well, I take it the dates on all of these then are the dates of the taking of the sample, are they, as opposed to the assaying of it?

MR. LAMEK: They are the dates of the taking of the sample, as I understand it.

THE COMMISSIONER: Yes.

MR. LAMEK: The date which is at the identification information for each sample is the date of taking and the following should be the hour of collection, if it is indicated on the sample itself.

THE COMMISSIONER: So that "results flagged and were reported today" obviously really doesn't mean much to us. It means whatever day they were actually assayed, and we don't on this report know what date that is?



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MR. LAMEK: Or it may mean this, Mr. Commissioner, that they were reported on the date which this report bears, but orally and before this report was in fact sent out.

THE COMMISSIONER: You mean before 0513?

MR. LAMEK: Before 0513, having got the result he may report it by telephone on the date of the report and the report subsequently goes out.

THE COMMISSIONER: I'll accept that, but what are you going to do when it is 0003 is the hour that is up in the top right-hand corner?

MR. LAMEK: I suppose I will commend Dr. Ellis for working so far into the night.

THE COMMISSIONER: But does that necessarily mean that in the two minutes before that he called -- this is what I find wrong with it. This is computer language and they just put something in and it doesn't necessarily represent facts. Does it, Dr. Rowe? You needn't agree with me, but "results flagged and were reported today" doesn't necessarily mean that they were reported on the 21st of March, or does it?

THE WITNESS: I don't know precisely, Mr. Commissioner. I think we would have to get help from the biochemist.



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THE COMMISSIONER: Well, we will be having Dr. Ellis back I suppose. Anyway ---

THE WITNESS: I do know that if there is any concern about any result, then the resident staff would be ---

THE COMMISSIONER: Well, that's what I understood from him. When was this one ordered?

MS. CRONK: The 19th.

MR. LAMEK: The 19th, Mr. Commissioner.

THE COMMISSIONER: Well, it was ordered on the 19th, it was made on the 19th, it was taken on the 19th and although there was no time given, I assume it was some time before 9:30 at night because the next one is the 2130. Well, I don't know.

MR. PERCIVAL: Mr. Commissioner, if I may be of some assistance?

THE COMMISSIONER: Yes.

MR. PERCIVAL: If you take a look at page 43 in the middle order, the doctor, the good doctor has held digoxin up to that particular point, and you will take a look at page 43 and he restarts the maintenance dose of digoxin at 1500 hours, it looks like, on March 20th of '81.

THE COMMISSIONER: Right.

MR. PERCIVAL: If you look at page 38,



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Nurse Nelles administers digoxin at 2100 hours on that same day.

THE COMMISSIONER: That's 2100 hours of the ...

MR. PERCIVAL: March 20th.

THE COMMISSIONER: Well, are you suggesting that the administration would be after, I take it you are suggesting that?

MR. PERCIVAL: After the order. After the order, because there was an order holding it.

THE COMMISSIONER: Yes, but it was after the order to restart.

MR. PERCIVAL: That's correct, no question about that, but I'm saying it must then - today may have meant that Dr. Costigan received the oral report on the digoxin from the lab prior to 1500 hours on March 20th because he clearly up to that point held digoxin. That may be of some assistance to you.

THE COMMISSIONER: Yes. Yes, well that may be, that may be. I think we are going to have a few questions for Dr. Ellis on this, are we not?

MR. SCOTT: I can think of nothing more dangerous than the speculation that these lawyers, including me, are engaging in. Can we just make a note



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that some evidence will be obtained to explain it?

THE COMMISSIONER: Yes, I think you're quite right, Mr. Scott. If it is of any help to you, I ---

MR. SCOTT: Mr. Percival will be cross-examined later!

THE COMMISSIONER: Yes, this sort of speculation I go through I will forget I promise you, at least by next Monday, it will all have disappeared.

MR. SCOTT: Well, we'll find out about it.

THE COMMISSIONER: Yes. All I really started to do was, and I may not have proved my point at all, was that these big computer printouts aren't all the help they might be, that's all, because we start off - they are supposed to be for simple minds and Mr. Percival's simple mind and my own simple mind don't seem to be able to fathom them.

MR. SCOTT: Well, they are simply forms, as you can see, Mr. Commissioner, and how they are used is a matter of who are the masters of the form. Anybody who has looked at the Writ of Summons in the Supreme Court of Ontario will see how useful that is as a guide to the citizens.

THE COMMISSIONER: These are some mean jokes.



EE.10

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THE WITNESS: Yes.

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MR. LAMEK: Where was I?

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MR. SCOTT: Late on Thursday afternoon.

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MR. LAMEK: I'm grateful for the help,

(2)

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Mr. Commissioner, truly grateful for the help.

7

Q. There are two orders that are

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given, Dr. Rowe, on March 20th, are there not? On

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page 34, as I have said, there is a note at the very
bottom of the page, "start digoxin if level okay" and

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that is a note apparently written at 2:30 in the

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afternoon of the 20th and then at page 43 the order

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is written apparently at 3 o'clock, 1500 hours for

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the maintenance dose that is to be administered on

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the assumption presumably that digoxin will be started
when the level comes back okay?

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A. Yes.

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Q. Yes. And then on page 43, again,

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the morning of the 21st of March at 2:30 in the morning,

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Dr. Souliota writes the order, "hold digoxin".

19

Can one reasonably infer, Dr. Rowe,

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that the reason for that order as being written at

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2:30 in the morning was that Dr. Soulioti suspected

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the possibility of digoxin involvement in the events

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that were occurring, or had recently occurred at that
time, that is to say, vomiting and bradycardia?

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A. He probably did.

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Q. By the 21st, Dr. Rowe, what information was there that was generally available among members of your Division with respect to the digoxin suspicions that had been aroused and questions that had been asked as a result of the Pacsai death?

A. By the 21st?

Q. Yes.

A. It is a Saturday morning?

Q. Right.

A. I think most people knew on Saturday morning.

Q. Even early Saturday morning, very early hours?

A. I don't know about very early hours. Most of the cardiologists knew, I think.

Q. We just referred to certain events that may have prompted Dr. Soulioti's stop or hold digoxin order at 2:30 in the morning. Perhaps we should go back to those events in some detail and take a look at them, Doctor.

A. Yes.

Q. Pages 41 and 42 of the record. Page 42, first of all, the long night's nursing note by Nurse Nelles, appeared beginning at 7 o'clock on



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March 20th and, in this case, ending at 3 o'clock on March 21st, she records that the apex ranged from 73 to 59 and was irregular all night. Doctors aware. Records blood pressure, which was maintained despite the low apical rate, chest is very congested in the upper lobes particularly, but did seem to have air entry throughout. Colour very pale, nail beds are slightly cyanotic. The baby was kept in 40 per cent oxygen.

Behaviour: slept for long periods although she was easily aroused for vital signs.

Nutrition: tolerated 50 cc's of apple juice at 9 o'clock.

March 21st, 1:45 to 3:27. At approximately 1:45 the baby's apex was noted to be 54 and very irregular; blood pressure was 98 over a pulse. The child was stimulated and the apex came up to the 70s. This happened three to four times. Then the child began to gag and vomit large amounts of very thick clear mucus. She was suctioned for further amounts of this mucus, and there is an asterisk there at the bottom of the page:

"*Respirations became quite laboured, substernal and intercostal and in-drawing very noticeable."



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TORONTO, ONTARIO

Rowe, dr.ex.
(Lamek)

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The note continues:

"Dr. Soulioti came to examine the
child, administered lasix 6 milli-
grams IV push."

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FF/BN/ak

Now, those are the events that had occurred when Dr. Souliati arrived and it was at 2:30 in the morning shortly after that time that he made his order to hold digoxin?

A. Yes.

Q. And it is, I think we have agreed, Doctor, a reasonable inference that it was in the light of those events that he wrote that order.

At 2:40 in the morning, there is an IV push at 2:40.

"At approx! 0245 baby began to seizure i.e. became very rigid and extended legs and arms. On auscultation there was no heart rate so CPR was initiated. Code 25 called."

A. Yes.

Q. It then refers us to the physician's note, baby pronounced dead or deceased at 3:27.

Now, we have to go back to the page before for the arrest note, I think, and the time is obscured on my copy, at least. It begins:

"'25' call to 4A/B.

1 yr. old child with single atrium...



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FF2

"admitted recently with fever and
bradycardia (wandering atrial pace-
maker)".

Can we just be clear about one thing, Doctor. We
laymen think of a pacemaker as something mechanical
that is implanted. You, I take it here, are talking
about the natural pacemaking ---

A. The natural pacemaker of the
heart, yes.

Q. And the way it may switch
from the finest node to the AV node?

A. Or somewhere else in the
atrium even.

Q. Yes. In other words,
naturally the heart beat is initiated from one place
or another, and whatever that place happens to be is
what you are referring to as the pacemaker?

A. Yes.

MR. PERCIVAL: May I ask you,
Mr. Commissioner, unfortunately the black thing cut
through the time on that.

THE COMMISSIONER: Yes. Have we
got that on the original.

MR. LAMEK: Give that to my friend.

Q. We will know the time of that



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call in a moment, Doctor, but the note reads against observation:

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"Cyanosed. Hypertonic. No respirations."

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Can you read the next word, Doctor?

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A. This is on page 41?

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Q. 41. I am reading the arrest note at the bottom.

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A. Cyanosed, hypertonic, no respirations, query, convulsing, I think.

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Q. Convulsing, thank you. Extreme bradycardia intially to complete loss of any heart beat. Intubated after dose of atropine by anaesthetist. Despite repeated boluses of atropine, what is that sodium bicarb?

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A. Yes.

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Q. And calcium and adrenalin. Spontaneous electrical activity never returned. Pupils fixed and dilated. Pacemaker was also inserted.

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Now, here we are talking about ---

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A. An artificial pacemaker.

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Q. Yes. An artificial pacemaker, an attempt to promote a beat in the heart, are we not?

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A. Yes.

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Q. Inserted by Dr. Schaffer

with no effect. Pronounced dead at 3:30 a.m.

Now, it appears, then, that at the stage of his appearance in the course of those events, Dr. Soulioti apparently recognized at least the possible connection between those events and digoxin intoxication and entered his hold digoxin order.

Now, at autopsy, Doctor, a sample was submitted for digoxin level, was it not?

A. Yes, it was.

Q. And that appears from page 53 of the report, of the record, in the final autopsy report?

A. Yes.

Q. The final paragraph of the autopsy report, textual material says:

"Post mortem blood samples were submitted for analysis of digoxin."
Could I ask you, please, who submitted those, if you know?

A. I think that -- I am not sure who did that. I have an idea -- I had an idea that it was Dr. Costigan, but I may be wrong.

Q. Do you have any idea why the



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samples were submitted?

A. No, I do not except perhaps because of his involvement with the other two patients.

Q. Well, following the receipt of the digoxin information from Pacsai, I think you told us yesterday that was available on the 18th of March, was it?

A. Yes, on the 18th.

Q. Was any standing order issued to submit autopsy blood samples for digoxin assay?

A. Not at that stage.

Q. Was that considered as perhaps an appropriate thing to do?

A. I do not know. It was not considered by me at that time. What conversations there were with the Coroner I do not know.

Q. So the submission of a post mortem blood sample in the case of Allana Miller for digoxin assay was something that was not done in accordance with some new standing order of procedure. It was something initiated by the particular physician who ordered it?

A. Not that I am aware of, unless



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there was some arrangement reached with the head of the resuscitation group by Dr. Carver or somebody else.

Q. But you are not aware of any such arrangement?

A. No.

Q. And to the best of your knowledge, this was done on the initiative of a particular physician?

A. I think so.

Q. Whom you believe ---

MR. SCOTT: Mr. Commissioner, I will try and find out whether there was an order made.

MR. LAMEK: Thank you.

Q. And you believe that physician to have been Dr. Costigan?

A. Yes, I thought so.

Q. Now, the sample came back, and it is reported at page 70, the sample came back with a level recorded of 78 nanograms per millilitre. When did you learn of that result, Doctor?

A. I think I learned on Saturday evening. I was not on duty that day, but I had been in the Hospital and I had become involved in the meeting that was held in the Acting Chief Coroner's



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Office over the other cases. I was aware of the state of concern about digoxin, and I believe that the sample became available around about 7 or 8 o'clock on Saturday evening and that Dr. Fowler and Dr. Carver then communicated with Dr. Tepperman who was the Coroner involved. So I think it was that evening.

Q. Were you in the Hospital at the time the information became available?

A. No, I was not.

Q. You were at home?

A. Yes.

Q. And you were called at home with this information?

A. I was called at home.

Q. Who called you?

A. Dr. Fowler.

Q. And did Dr. Fowler appear to you to be disturbed by this information?

A. Yes, he was.

Q. Were you disturbed by it?

A. Yes, I was.

Q. Did you subsequently meet with or have any discussion with your fellow staff cardiologists or the Cardiology Fellows to refer



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to that information, the 78 nanogram level?

A. This was Saturday night.

Q. Yes.

A. I did not call everybody in
on Saturday night, no.

Q. When did you talk to people
about it?

A. Well, I think on Sunday we
were involved with the police, and I think people --
and then there were a number of things done on
Saturday night by Dr. Carver over the digoxin control
in the Hospital, and on Monday morning I think we must
have
/spoken to the other people and probably to the --
Dr. Fowler was on call so he must have talked to the
people who were involved on the ward.

Q. This was the night when the
order was issued as to treating digoxin as a
controlled drug?

A. Yes, I believe so.

Q. Dr. Rowe, prior to receiving
this digoxin information about Allana Miller, had
you formed any belief or opinion as to the probable
cause of her death?

A. Well, she had not been
discussed in detail in any conference because it was



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a Saturday morning. I learned about it from Dr. Fowler when I was called to the Coroner's Office at 2 o'clock in the afternoon.

Q. Was the death of Allana Miller discussed at the meeting with the Coroner on Saturday afternoon?

A. I am not sure. I cannot remember exactly. I think it was mainly Baby Pacsai and Baby Estrella. I cannot remember the precise points, but that information must be available.

Q. You had not been in the Hospital on Saturday morning as I understand you?

A. I came in to catch up on my correspondence and things that would allow me to secrete myself away for a while.

Q. Did you learn at that time when you came into the Hospital that Allana Miller had died?

A. No, I did not learn until about 2 o'clock, just before the meeting.

Q. At or just before the meeting?

A. Yes.

Q. Were you told at that time that a postmortem sample of her blood had been sent for digoxin assay?



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A. I cannot remember. I cannot remember.

Q. When you were told of Allana Miller's death just before going into the meeting, were you told anything about what was believed to be the cause of death?

A. No, I do not think it was -- I do not remember the details of what I was told at that time. I am sure Dr. Fowler filled me in on everything, but I do not recall all the details.

Q. Yes. You said that after the result of that digoxin assay was known in the evening of the Saturday, a call was made to the Coroner?

A. Oh yes.

Q. By whom?

A. I do not know. Dr. Fowler presumably. He was the physician on duty.

Q. Was it the view that in light of that reading the case was clearly a reportable coroner's death?

A. Oh yes.

Q. Had the case earlier been reported to the Coroner?

A. I do not know.



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Q. Dr. Rowe, when you were ready to go into that meeting on Saturday afternoon with, was it the Coroners?

A. It was with Dr. Bennett, Dr. Tepperman, I remember that Sergeant Press and Sergeant Warr were there and there were two administrators from the Hospital, Dr. Carver, the Head of Pediatrics, myself and Dr. Fowler, and I am not sure who else.

Q. And the purpose of the meeting was to discuss the deaths of Pacsai and Estrella you said?

A. I think that that was a meeting called presumably by Dr. Tepperman and in conjunction with the police and Dr. Bennett to discuss those two patients.

Q. Yes. And in light of what you told us yesterday, I take it the circumstances and the questions raised by the death of Kevin Pacsai were very much on your mind at that time?

A. Yes.

Q. And similar questions must have been raised about Estrella since that also was a death that you were going to discuss in that meeting?



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A. Yes.

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Q. When very shortly before

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you went into that meeting somebody told you that
Allana Miller had died, did you not ask any

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question as to whether this was another death

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that you had to be concerned about?

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A. I cannot remember exactly

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what I said to Dr. Fowler, but I think that we were
obviously very worried about the situation at that
stage.

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Q. You say you cannot remember

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precisely what you said to him. Have you any

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recollection at all of the conversation between the
two of you?

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A. No, I do not really remember

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the details. All I remember is going to the Coroner's
office and it obviously had reached a point where
everybody was very concerned.

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THE COMMISSIONER: Would this be

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a convenient time to break?

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MR. LAMEK: Yes, Mr. Commissioner,

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this would be a good time to break, and we can deal

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with the rest of Miller and then Cook after the

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break. Thank you.

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THE COMMISSIONER: Fine. We will

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take 15 minutes.

---Short recess.



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--- On resuming:

THE COMMISSIONER: Yes, Mr. Lamek?

MR. LAMEK: Q. Dr. Rowe, on the question of reporting the death of Allana Miller to the Coroner, page 48, at page 48 there is the Hospital's death check list of things that have to be done in the event of a death, and it appears that the first part of that which is to be completed by attending staff or house staff was completed by Dr. Soulioti?

A. Yes.

Q. He appears to have thought, does he not, that this is a death that it was not necessary to refer to the coroner?

The second item is "notify coroner if necessary" and a box to check it; it is not thought necessary?

A. Yes.

Q. When are these forms normally to be filled out?

A. I presume they are filled out at the time of the death of the patient or shortly after the death of a patient when they are gathering the records together ready to send them down to the Medical Records Department.



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Q. So it appears that at that time at least Dr. Soulioti did not see in the death of Allana Miller any circumstances which would make it necessary to report the death to the coroner?

A. That is what would appear from that check mark. I don't know all the details of what went on between that physician and Dr. Fowler.

Q. You have no information as to whether there was any discussion between Dr. Soulioti and Fowler on the question of reporting the death?

A. No, I haven't.

Q. Sir, I don't think I asked you this, and if I did, please tell me: shortly before going into the meeting on the Saturday afternoon you were advised that Allana Miller had died. Were you told at that time that a sample had been sent for assay? Did I ask you that?

A. I don't remember.

Q. Well let me ask you now.

A. I think I learned - I am not sure whether I learned at that time or when I learned but I knew a sample had gone because I heard later that evening that it had come back.

Q. Later that evening you learned it had come back?



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A. Yes.

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Q. And from that you could infer

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that it had been sent?

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A. Yes.

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Q. Did you know at any time before

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going into the meeting with the coroners that a post-mortem sample had been sent to Biochemistry for

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digoxin assay?

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A. I am not sure of that. I don't

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remember exactly the time sequence of that.

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Q. At the time of going into that

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meeting with the coroners did you have any information

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about Allana Miller and her death that gave you any

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cause for suspicion or concern?

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A. I can't remember specifically

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about this because we went into that meeting with

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this sort of background of great concern about the

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other - the information that was leading to that

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meeting, and I think that we knew - that I knew that

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a baby had died that morning and I guess my concern

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was probably heightened a bit further, but I don't

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remember the discussions about what Dr. Fowler thought.

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Q. All right. The final autopsy

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report is contained at page 52 of the Hospital record,

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Doctor. I am particularly interested in page 53.



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The final paragraph of the autopsy report - what is the signature at the bottom there, please? Do you recognize it?

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A. No.

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Q. Or it is not a signature.

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A. I think it is a query.

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Q. A query from where?

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A. Yes.

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Q. That is right. The signature appears at the bottom of the preceding page and those are Drs. Taylor and Cutz.

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Who is the senior of the two, please?

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A. Dr. Cutz.

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Q. And would it be he who was the author of the report?

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A. He would be the senior person involved I am sure.

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Q. I take it the report would therefore --

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A. Have been --

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Q. -- would carry his approval?

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A. Yes, indeed.

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Q. And his blessing?

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A. I would believe so.

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Q. And in the final paragraph on page 53 it is recorded:

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"Postmortem blood samples were submitted for analysis of digoxin. Markedly elevated levels of digoxin were found (78 nanograms per millilitre) in the postmortem blood sample. This level of digoxin is well above the toxic range for this drug and can account for the sudden episode of bradycardia and cardiac arrest. All cardiovascular and respiratory pathologic changes are considered chronic. Immediate cause of death is digoxin toxicity."

Now when did you become aware that that was the opinion of the pathologists?

A. I don't know when I became aware of that because that became a coroner's case on Saturday. I don't know when I got that information other than the level. The level that came back to us on Saturday led to the same conclusion.

Q. Yes.

A. But I don't remember seeing that report until much later.

Q. Forgive me, I didn't frame my question in terms of when did you see that report. I



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said when did you become aware that that was the pathologists' conclusion, and that may have been conveyed to you orally; it may have been conveyed to you by way of memorandum or note from somebody. It is not dependent upon the date of your seeing this document?

A. No. I don't think I got the word about the digoxin level from the pathologist.

Q. You told us about ^{receiving} the level information from Dr. Fowler at home on Saturday evening?

A. Yes.

Q. When did you become aware that the pathologists said, look, all the other things are chronic ongoing conditions, but the cause of death of this child was digoxin toxicity?

A. I don't remember ever getting that information from him.

Q. Was that the view that you formed knowing the digoxin level?

A. Yes.

Q. And once again as with Pacsai, I take it, Doctor, having come to that conclusion you had to ask yourself and perhaps others how did the child receive the digoxin to produce that kind of a level?



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Did you ask that question of yourself?

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A. At that time I didn't because

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that matter at that stage that became in the hands of
the police immediately.

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Q. But, Doctor, did you not have

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a continuing interest and concern in the answers
to those questions?

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A. Of course, but it was an

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investigation of the police and we, as I have said

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before, took the position that they were investigating

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the condition; that they should - they would be

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asking the questions and we were going to support the

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position on that investigation as much as we could,

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as they wanted.

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Q. Doctor, did you not ask the

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question of yourself? Did you say how did the child
get that digoxin?

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A. Yes.

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Q. And how did you answer it for

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your own purposes in your own mind?

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A. I didn't know how the child

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got that. It didn't seem to me likely that that
could be except ^{that it} ~~by it~~ was an obvious overdose.

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Q. Yes.

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A. It seemed to me it was an

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obvious overdose at the time and the overdose could be through a mistake or intentionally, and I think we understood that those matters were being investigated very promptly.

Q. Yes, of course. And if the administration of an overdose had been intentional you are entirely right, of course, that was a matter for police investigation for them to prove.

Nevertheless, did it occur to you to wonder what kind of accident might produce an overdose that would provide a blood level of 78 nanograms?

A. Well, we talked about that a great deal as to what might happen in terms of an accident, and one of the obvious ways is during resuscitation.

Q. Yes.

A. Because during resuscitation manoeuvres there is a great opportunity for errors in dosage to occur.

Q. Did it appear to you likely that the overdose which you inferred had been administered, did it appear to you likely that that overdose had been administered accidentally?

A. I thought it was unlikely.



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Q And since that time, at any time to the present, have you had any reason to change that view?

A That is was unlikely that it was?

Q That it was unlikely that (a) that there was an overdose and (b) that that overdose is unlikely to have been administered accidentally?

A I haven't changed --

THE COMMISSIONER: I'm sorry, I don't understand the question. The first part you say it was unlikely --

MR. LAMEK: Dr. Rowe has told me that he inferred from the level that there had been an overdose of digoxin.

THE COMMISSIONER: Yes. I think you phrased your question --

MR. LAMEK: Sorry.

THE COMMISSIONER: -- that is was unlikely there was an overdose.

MR. LAMEK: No, I'm sorry.

Q (a) that there was an overdose, and I take it that you have not changed your view of that?



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A. Well, I have had some other thoughts about that, but I think those are matters that have emerged a long time since over the question of what happens to digoxin --

Q. All right.

A. -- in tissue after death and when a patient has been resuscitated.

Q. There may be some question as to what that level means.

A. Yes.

Q. If in fact it means, as you originally inferred, an overdose --

A. Yes.

Q. -- have you changed your view that such an overdose is unlikely to have been administered accidentally?

A. I can't exclude that possibility, but I thought that was unlikely.

Q. You thought that was unlikely?

A. Yes.

Q. And you still so think if indeed there was an overdose.

A. I think it is unlikely, yes.

Q. Excuse me.

MS. SYMES: Excuse me, Mr. Commissioner.



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THE COMMISSIONER: Yes, Miss Symes?

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MS. SYMES: I am a bit confused in the answer that Dr. Rowe just gave. I thought he had given two arms to the answer. One is that if it were an overdose would it be accidental and I thought he started to answer that question whether or not in light of some new information of action on digoxin, action of digoxin during resuscitation, and he didn't finish that. At least my notes show he did not finish that.

THE COMMISSIONER: Would you like him to finish that?

MS. SYMES: If there are two arms would he please finish the second one.

THE WITNESS: As I understand --

MR. LAMEK: Q I thought it was the first and I thought you had. Did I understand you to say, Dr. Rowe, that since you made the initial inference that there had been an overdose you have become aware that there may be questions as to the interpretation of a recorded level in postmortem blood?

A. Yes.

Q And that therefore --

THE COMMISSIONER: Sorry. I don't want to interrupt here but the word he used was tissue, not blood.



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MR. LAMEK: Sorry.

THE COMMISSIONER: I take it it does
apply to blood as well?

THE WITNESS: Yes, it does.

MR. LAMEK: You are absolutely right,
Mr. Commissioner.

Q. You have become aware that there
may be some dispute as to the interpretation of levels
recorded in postmortem samples? Can we put it
generally like that?

A. Yes.

Q. And that until those matters
of interpretation have been resolved I take it, Doctor,
you do not feel qualified therefore to say whether
you still draw the same inference or not as to over-
dose?

A. That is correct.

Q. And the second arm of it was
if, however, your inference ^{of} to overdose continues to
be valid, do you still consider it to have been an
overdose which was not likely administered accidentally,
and you have told me that would continue to be your
view?

A. Yes.

Q. Thank you.



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THE COMMISSIONER: Does that clarify it?

MR. STRATHY: I think there is a certain problem with Mr. Lamek completing Dr. Rowe's chain of thought and not Dr. Rowe.

THE COMMISSIONER: Well, that is something that I always give - well, you know, I take it with a certain grain of salt all of the questions that are framed in that way, but that is the rule, we are allowed to do.

MR. STRATHY: Well, Miss Symes has raised a matter that I didn't hear Mr. Lamek put to Dr. Rowe, and if I can just mention it and perhaps ask if the doctor might complete the answer.

THE COMMISSIONER: Yes.

MR. STRATHY: I understood him also to say that he had at least a question in his mind as to what happened to digoxin during resuscitation, and I made a note of that.

THE COMMISSIONER: Yes.

MR. STRATHY: I wonder if he might be able to elaborate on his concern in that way.

THE COMMISSIONER: Do you have any strong feelings on that?

MR. LAMEK: Not at all. I refrained from asking Dr. Rowe whether he had come to any



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conclusion about that because I understood he doesn't want to express an opinion as to a matter on which he is not qualified, but merely that the questions have been raised and he recognized them.

THE COMMISSIONER: Yes.

MR. LAMEK: I have no objection to Dr. Rowe clarifying them in any way he wants to, sir.

THE COMMISSIONER: All right, sir.
You have been given all sorts of leads here, Dr. Rowe. Do you want to elaborate?

THE WITNESS: The question about the postmortem levels of digoxin in blood particularly I think probably applies here. I think that is the term rather than tissue, assuming that there was a blood sample of 78 nanograms per millilitre.

I think I am aware now although I wasn't at the time, of course, that in somebody who has had a resuscitation effort where there is compression of the chest and where there may be electrical stimulation and where there may be even damage to the muscle might lead to the formation of an increased concentration of digoxin in the blood within the heart.



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I don't pretend to say whether that is the case or
in this particular instance, but being aware of that
I have to modify a little bit what I originally felt.

THE COMMISSIONER: Yes, all right.

And you will have an opportunity at any rate, not
immediately, to elaborate as much as you like on that.

MR. LAMEK: Q. Dr. Rowe, we come
finally then to Justin Cook. Justin Cook was born
on December 11, 1980 and he was admitted to the
Hospital for Sick Children on March 20th, 1981 at
11 o'clock in the evening and he died at 4:56 in the
morning of March 22nd, 1981 in Ward 4A.

The diagram behind you ^{purports} ~~reports~~ to
illustrate the anatomy of Justin Cook's heart. Can
you confirm for me please that it does so with some
reasonable accuracy?

A. Yes, it does.

MR. LAMEK: May that be the next
exhibit, please, Mr. Commissioner.

THE COMMISSIONER: 123.

---EXHIBIT NO. 123: Heart Diagram of Justin Cook.

MR. LAMEK: Q. And would you
describe the anatomy for us, please, Dr. Rowe?

A. Justin Cook had an extremely



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heart defect that I simply call complex pulmonary stenosis because I can't, because we would otherwise spend several days going through all the defects. But I will try quickly to go through the main points.

The heart first of all is sitting in the right side of the chest, so, this is dextro-cardia. The heart is pointing to the right chest instead of into the left side.

There is, on the right side, a complete sealing off of the tricuspid valve, which normally opens and allows blood to come in from the right atrium into the right ventricle. That is completed sealed off. So, that condition is called tricuspid atresia. Thus, blood cannot get into the right side of the heart in the usual way, so, it has to go through an obligatory shunt in the atrial septum. So, there is a hole of one sort or another in the atrial septum at the top level of the heart.

So, all the blue blood is coming in here and has to go across to this left sided atrium. There it mixes with whatever blood has gone through the lung and becomes a mixture of pink and blue and then it goes down through a single atrial ventriculo valve or mitral valve into a large chamber on the left side, which is virtually a single pumping



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chamber. There is a diminutive outlet over here, a little cavity over here through a ventricular septal defect which represents the rudimentary right ventricle.

So, blood is coming down here and has access to both great arteries leaving the heart. This tiny little cavity over here gives rise to the aorta, which comes off and, in this case, is coming off in an unusual position relative to the pulmonary artery, it aways to the right of the pulmonary artery in this diagram; in other words, spacially it is a different arrangement from the usual.

The pulmonary artery happens to come off the main pumping section and the valve and the sub-valve area of the pulmonary artery are obstructed, muscular and valvular obstruction and, so, there is pulmonary stenosis. This means that in addition to mixing of blood up here on entry into the heart and the passage of blood to both places, there is difficulty in blood getting out to the lungs. In this situation, the blood supply to the lung being reduced, you are dependent upon this ductal structure again until it closes off and once closed off you are dependent upon some blood getting through to the lungs. The consequence usually of this is that there



1
2 is reduced blood flow to the lung and the patient
3 gets more and more cyanotic.

4 Initially, however, it may not be
5 that way and there may be, because the ductus is
6 open at the beginning, or because this obstruction
7 is not critically severe at the moment of birth,
8 then the patient's colour may be reasonably good at
9 the beginning, but rather rapidly in this complex
10 situation, it usually falls apart and the baby becomes
11 more blue. If at the beginning there is an adequate
12 amount of blood getting out to the lung, then the
13 lungs may flood with blood and if this thing is open
14 and there is a reasonable flow here, there is a
15 high pressure delivering blood into the lungs and
16 there may be too much going to the lungs. So, it is
17 the mixture of possible courses, but the usual one
18 in this situation would be that the blueness would
19 predominate and the patient would require some means
20 of increasing a blood flow to the lung by an operation;
21 an operation that is equivalent to having a patent
22 ductus.

23 So, some connection would have to be
24 done between the aorta and the pulmonary artery to
25 improve that. But you can see that basically the
internal architecture is not favourable and all that



HH5

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2
3 can be done is to try and palliate the anomaly.

4 Q. Doctor, thank you. In
5 attempting to summarize Justin Cook's course in the
6 Hospital, perhaps we should start with the history
7 of the illness that got him to the Hospital.

8 The pre-admission history ^{is} set out
9 at page 18 of the chart. It records that after
10 birth he was observed to have ^a systolic murmur;
11 chest x-ray was done at the time ^{and} was thought to
12 be normal which, in light of what you have said
13 about the dextrocardia is a little surprising, is it
14 not?

15 A. Yes.

16 Q. And the electrocardiogram
17 they had done suggested a ventricular septal defect.

18 He was well until he was three weeks
19 of age, at that stage he had some vomiting, diarrhea
20 and taken to a family doctor, general practitioner
21 who noticed some cyanosis; and the diarrhea continues
22 to be a problem, apparently.

23 Mother noticed that he seemed to be
24 a little blue and he has become more and more cyanosed.
25 Last few days - last couple of days prior to his
admission - blue all the time. Been feeding well until
a couple of weeks prior to admission and gaining



HH6
1
2 weight. He hadn't gained any weight in the last
3 two weeks and he is not at all feeding well, he is
4 not thriving, he is tachypneic and sweating.

5 That's the picture of the child
6 who presents. He was admitted late in the evening
7 of March 20th, and the next day he had an echocardio-
8 gram, did he not? Indeed, that might have been the
9 night of his admission. The echocardiogram report
10 is on page 23 and the date in the top right hand
11 corner is 20/3/1981. ^{if} ~~would~~ that be the date of
12 the procedure, then after having been admitted at
13 11:00 p.m. ~~and~~ they took him straight to an echocardio-
gram.

14 It is clear however that the next
15 day he had cardiac catheterization, and a report of
16 that procedure is at page 69.

17 At that stage I take it that you
18 were aware of the anomalies that you've described on
the diagram, Doctor?

19 A. Yes, that would be the
20 definitive study.

21 Q. Now, the discharge report is
22 at page 38 of the record, perhaps you ought to look
23 at that, as to his hospital course thereafter.

24 The Hospital course at the bottom of
25



HH7

1
2
3 page 38, having set out the various investigative
4 diagnostic techniques that we've just referred to
5 and the findings; at approximately 1800 hours that
6 evening the patient became more blue and the murmur
7 on consultation was much softer. He was diagnosed
8 as having a hypoxic spell and 4 milligrams of
9 inderol was administered IV with tremendous effect
10 and ~~that~~ the patient became pink and the murmur
11 became louder. The patient remained well through
12 the course of the evening, although, was somewhat
13 irritable and hungry. He had been on propranolol
14 since his admission and that dosage was increased.

15
16 At approximately 3:30 on the 22 March,
17 1981, the child became irritable and became increas-
18 ingly blue and had a generalized seizure lasting
19 45 seconds with no decrease in blood pressure,
20 normal heart rate and somewhat slow respirations.
21 After the seizure he remained blue and at approximately
22 400 hours he was given a total of .6 milligrams of
23 inderol IV with no effect.

24
25 He developed a bradycardia of 80 to
100 beats per minute which was treated successfully
with atropine. A few minutes later he developed
ventricular fibrillation and he was defibrillated
with success but at that time he was intubated and



1
2
3 being manually ventilated. However, he returned into
4 ventricular fibrillation and despite his being
5 given sodium bicarbonate, calcium, adrenalin,
6 isuprel and calcium and adrenaline intracardiac,
7 he was unable to be resuscitated ^{He} died at approximately
8 4:56 and permission was given for a heart/lung
9 autopsy only.

10 Now, do you accept that statement
11 from the discharge report, Doctor, as a fair summary
12 of the course of the child in the Hospital?

13 A. Yes.

14 Q. Again, Doctor, I ask you
15 what you consider to be of significance and
16 importance in the Hospital record of this child that
17 helps us to understand the time and the manner of his
18 death?

19 A. I think the principal features
20 that I see in this record are, that apart from the
21 anatomy and the complexity of his problem, the
22 behaviour of this youngster was that of two major
23 episodes of what we call blue spells, but they are
24 specific clinical situations in which the outflow
25 tract of the ventricle appears to go into spasm.

Q. Yes.

A. This area here narrows down



1
2 in some way. That is not the way it is from moment
3 to moment when things are reasonably stable. It
4 is believed that for some reason this area becomes
5 ^{or} hypocontractile, increasingly strongly - the muscle
6 is increasingly strongly contracting. The explana-
7 tion is unknown but it is known that by giving a
8 medication like propranolol or indurel which reduces
9 the intensity of the contraction of the heart
10 muscle, that that very often one can promptly relieve
11 that spasm.

12 In the first instance, I would have
13 said that that was a pretty encouraging response.
14 The intravenous injection relieved an episode that
15 had started with increased cyanosis and screaming.
16 This is a very typical behavioural pattern of the
17 babies that are having these spells and their murmur
18 gets even softer, sometimes disappears altogether,
19 almost as though the thing has shut right off.

20 The second episode, which was
21 occurring at 3:45?

22 Q. 3:34 in the morning, yes.

23 A. 3:34, was also characterized
24 by the same symptoms, marked cyanosis, very laboured
25 respirations. This is characteristic of the severe
blue spell. These babies seem to be making enormous
efforts to get air in and it's because they are so
short of oxygen in the brain that they do this.



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And ^{then} ~~there~~ oxygen tension just drops down to
terribly low levels, and I would have thought
that that was another possible spell of that
variety, only more severe.

On this occasion, however, nothing
worked, and from there they went into the
resuscitation and there was fibrillation and all
sorts of problems until death. So I would have
considered the way this baby died as being a
very classical, very severe blue spell from which
he did not emerge.

Q. Well, Doctor, I take it you
are telling us that his death and the manner of
his dying are consistent with such a situation?

A. Oh yes.

Q. But do I take it you are not
suggesting that that was the cause of this
child's death?

A. No, but if I did not know
anything else, that is what I would say.

Q. Yes. And what else it is
that you know, I take it, is the result of the
digoxin assays that were conducted on blood taken
from this child?



II-2

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A. Yes.

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Q. And in particular, on what was

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apparently an ante mortem sample, you are aware of
that?

5

A. Yes.

6

Q. Digoxin had not been prescribed
for Justin Cook, had it?

7

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A. It had not.

9

Q. And so far as we know, had

10

not been prescribed in Owen Sound, whence he came?

11

A. As far as we know not.

12

Q. Indeed, the history records,

13

does it not, that there had been no medication

14

prescribed? I think that is my recollection of it,
Doctor, but let us check it.

15

Page 19 in the history that is taken,

16

it is recorded child has not been on any medication.

17

Now, we know, though, Doctor, that

18

samples of blood from Justin Cook were sent for

19

digoxin assay, were they not?

20

A. Yes.

21

Q. Do you know who sent those

samples?

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A. No, I do not.

23

Q. Do you know why samples were

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sent?

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II-3

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A. I presume it was because of the events that had been established on Saturday.

Q. There was not, by the time of Justin Cook's death, any such procedure requiring the submission of samples to Biochemistry for digoxin assay, was there, Doctor?

A. I am not sure. I do not think that was the case, but I think that -- I have not asked Doctor Fowler whether he and Doctor Carver specifically made a decision of that sort, but I do not think there was anything at that moment. I think that was set up afterwards.

Q. Now, could we look at the Biochemistry reports, please, Doctor? They start at page 56 of the record, and page 57 sets out certain digoxin assay results.

Now, there are five samples on the page. The left-hand one was not submitted for analysis for digoxin. The four on the right-hand side of the page were, as I read that report.

Can I direct your attention particularly to the middle one of the five, Doctor, the third from the right, which appears to be a sample submitted or taken on March 22nd, 1981, and the hour of collection of the sample was 4:30 in the morning, 0430?



II-4

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A. Right.

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Q. Now, we know from the chart

4

that we have just been looking at that Justin Cook was pronounced dead at what, 4:56 in the morning?

6

A. I have some other time here, but I may be wrong.

7

Q. Well, let us be sure.

8

MR. SCOTT: Page 29.

9

MR. LAMEK: Q. Page 29, thank you.

10

Page 29, Nurse Nelles records the baby was pronounced deceased at 4:56. If that be right, then at least in terms of the pronouncement of his death, Justin Cook had not yet been pronounced dead at 4:30, and I take it, therefore, the sample to which I have directed your attention numbered J05491 may properly be regarded as an ante mortem sample?

16

A. Yes.

17

Q. And in that sample, a digoxin level of 72 nanograms per millilitre was measured?

18

19

THE COMMISSIONER: Again, I do not

20

know whether there is any point in raising this,

21

what is your position -- it is obviously Mr. Lamek

22

I am asking this question to -- with respect to the previous one? Is that an ante mortem one or a

23

post mortem one?

24

MR. LAMEK: I cannot tell, Mr.

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Commissioner.

THE COMMISSIONER: Well, unless this computer with which I seem to be steadily getting crosser, unless it takes things out of order ---

MR. LAMEK: No, Mr. Commissioner, however much one dislikes computers, one must not be unfair to them, sir.

If the computer is not provided with a time of sample drawing, then it is not entirely fair to blame it for not recording one, sir.

THE COMMISSIONER: No, I can understand that, but surely it records things in the order in which it gets it, does it not?

MR. LAMEK: But the order in which things arrive at the computer may be absolutely no indication of the order in which the samples were drawn from a body, sir. I do not see a necessary continuity between the sequence in which things are drawn and the sequence in which they happen to be dealt with either by the assay or by the recording.

THE COMMISSIONER: Well, you will get a position of honour at the Computers Convention, I guess, Mr. Lamek.

MR. LAMEK: I think even computers deserve credit, sir. There is enough rotten that one can say about them justifiably.



II-6

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Now I have lost where I am at. Indeed, I may be able to help you with it, Mr. Commissioner.

Yes, Mr. Commissioner, if you were to look at Exhibit 45 from the Preliminary Inquiry in Volume 2 of the exhibits from that Inquiry, and in particular, at pages 30 to 31, the sample that you have asked about, which is D57978 is found as number 3 on page 31, and at that stage, it appears it was assayed neat and the only recorded level was greater than 5.

If you will then turn, sir, to page 32, that same sample number appears as the first item on page 32, and you will notice that there is no information as to when and where it came from. The time of drawing is not included. It is diluted 20 times, and at that stage, still not enough dilution, but the recorded level is greater than 100.

In other words, if a computer-generated report is incomplete in terms of the information about that sample, so equally is the manually-generated one, sir. We do not seem to have any information about when that sample was drawn.

THE COMMISSIONER: All right, thank you.

MR. LAMEK: Q. Well, perhaps we can ask Doctor Ellis if he has any information about that when he comes back, sir. It is not clear from



II-7

1
2 this what time that sample was drawn, but we do
3 know that of the four, one of them was drawn prior
4 to the time that Justin Cook was pronounced dead, and
5 in that sample, there was recorded the level of
6 72 nanograms, which does not greatly differ from
7 the sample immediately to the right of that, does it,
8 Doctor, a sample apparently drawn at six a.m. about
9 an hour after Justin Cook had been pronounced dead,
10 sample J05490 in which 68 nanograms per millilitre
were recorded?

11 A. Yes.

12 Q. Now, the sample on the extreme
13 right obtained at seven a.m. on the 22nd of March
14 yielded a measurement of less than .2, it also
15 bears a note that says "See F", and if you look down
16 at the bottom of the page, the note F1 indicates
17 that was IV fluid, as indeed does the digoxin book of
Doctor Ellis.

18 This is on page 30, Mr. Commissioner.
19 Page 30, the samples from 3 to 6 from Justin Cook
20 bear the number which is that of the apparently
21 ante mortem sample drawn at 4:30. There is then
22 an Allana Miller sample that was assayed, and then
23 there are five numbers, 8 through 12 are assayed in
24 respect of sample J05490, which is the next to the
right sample in the record book, reyielding a value

25



II-8

1
2 there of 68, which is shown after the numerous
3 dilutions. The notation against those samples in the
4 left-hand column, Mr. Commissioner, is post mortem
5 blood. Do you see that?

6 There are then four assays conducted
7 on sample J05479. Let us go down to the bottom one.
8 That is the one we have got. 17 to 20, J05480, which
9 is the end sample, the right-hand sample. That is
10 identified on the left-hand side of the digoxin book
11 as IV fluid, which is consistent with the notation
12 at the foot of the computer-generated report. Do you
13 see that, sir?

14 THE COMMISSIONER: Yes.

15 MR. LAMEK: Q. So it appears, does
16 it not, Doctor Rowe, that in addition to testing
17 both ante mortem and post mortem blood samples from
18 this child, Doctor Ellis also obtained a sample of
19 whatever had been in the intravenous bag and was
20 testing that presumably to see if that was the source
21 of the digoxin?

22 A. I would think so.

23 Q. And it appears not to have been.

24 And in the one sample where there is
25 not a precise result, the sample numbered D57978,
drawn at an unstated time on March 22nd, the result
achieved is greater than 100 nanograms per millilitre,



II-9

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but Doctor Rowe, as appears from his digoxin book,
did not at that time dilute sufficiently to get
precise results, and indeed, at the top of page 32,
Mr. Commissioner, in the digoxin book ---

A. You mean, Mr. Lamek, Doctor
Ellis.

Q. Doctor Ellis, forgive me, yes.
What did I say?

A. You said me.

Q. Oh, you would have diluted
enough, I know, Doctor, if it had been you.

A. Yes.

MR. SCOTT: Would you lead me to the
time of the arrest? I cannot find that.

MR. LAMEK: Time of the arrest?

MR. SCOTT: Yes.

MR. LAMEK: Time of pronouncement of
death was 4:56.

MR. SCOTT: No, the death I have;
the arrest I do not have.

MR. LAMEK: Q. The top name on page
32, the top sample, Mr. Commissioner, Cook, J. with
an autopsy number times 20 indicates the dilution
that he was doing, the sample number D57978, which
is the one at the time of sampling not having been
recorded, and he produces over 100.



II-10

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You will see above the times 20 he is representing the dilution, the number 5.3. Apparently he recorded over the top of his calibration anyway, even a 20 times dilution was not enough to get a precise reading. At that point he seems to have given up on that sample.

Now, on page 59, Doctor Rowe, there is an interesting notation. Apparently a further sample was sent to Biochemistry for digoxin assay, sample number D57980, and that comes back with digoxin level measured N/A. It is the second from the left, N/A and C/A. At the bottom the notation is:

"A1 Specimen is heart muscle. Test not available."



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It appears, does it not, that somebody had submitted a sample of muscle for digoxin assay for which Dr. Ellis or whoever was in charge of the lab, did not have a test procedure available? Is that what you would take from that?

A. I would take from that that to be the case. I wasn't aware of that.

Q. Are you aware of someone having sent a muscle sample for digoxin assay?

A. No.

Q. On March 22nd?

A. No.

MR. LAMEK: Indeed, Mr. Commissioner, you will not find that sample recorded in the digoxin book. I will have to ask Dr. Ellis about it, but I infer, not having a test by which to do the assay, he didn't record that he had done one. He merely sent it back, sent back the report saying, sorry, can't do it.

Q. But interestingly, Dr. Rowe, if you turn to page 93, page 93 reproduces a great number of digoxin assay results which had previously been reported. Reading across just ^{me} digoxin result level: greater than 100, that is a sample that had been reported March 23rd. 72 similarly had been



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reported March 23rd. 68 had been reported March 23rd. Less than 0.2 in the IV fluid had been reported March 23rd. 0.2 had been reported - that is contained on page 88 and it is more IV fluid.

But the sample that says "to follow" is that same sample apparently of heart muscle of which Dr. Ellis had earlier said "don't have a test for that".

"To follow", it suggests to me, does it to you, doctor, that perhaps he was working on something and might be able to produce an assay of that at some future time?

A. That notation usually means that on that record.

Q. Sort of "watch this space" sort of thing?

A. Yes.

Q. Now the digoxin book, Mr. Commissioner - I will show this to you, Dr. Rowe - if you turn to page 35, Mr. Commissioner, and then go one page further to the unnumbered page that follows it. If you will look, Dr. Rowe, at the column of samples on the left-hand side of the page, No. 12, 13 and 14 are identified as Cook on cells, and then we have all sorts of strange things. But above that -



JJ3

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2 let's look at this one. This might be a little easier.
3 3 to 8, Mr. Commissioner, and for
4 this you are going to have to turn back to the previous
5 page.

6 THE COMMISSIONER: 3 to 8, where
7 is that?

8 MR. LAMEK: I'm sorry, sir?

9 THE COMMISSIONER: Where do you get
10 that 3 to 8? You said something about 3 to 8.

11 MR. LAMEK: Nos. 3 through 8,
12 perhaps I should put it that way.

13 THE COMMISSIONER: Oh, I see.

14 MR. LAMEK: Under date of the 24th
15 of March.

16 THE COMMISSIONER: All right.

17 MR. LAMEK: Q. Reported merely
18 as Sample 1 neat, then I take it one is 2 to 1 or
19 1 to 1 dilution. Sample 2 neat, Sample 3 identified
20 as bowel, stomach and chest.

21 Now they are not identified, are
22 they, Dr. Cook, with any particular individual or even
23 any human at all, but if you turn back to page 35
24 there is a notation --

25 MR. SCOTT: Is my friend going to
leave a space for an answer along in there somewhere.



JJ4

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He asked a question and --

THE COMMISSIONER: I think the answer is in the piece of paper.

MR. SCOTT: He asked a question of Dr. Rowe but I think by accident he called him Dr. Cook, but I didn't note an answer.

THE COMMISSIONER: Well --

MR. LAMEK: All right. The question is coming.

THE COMMISSIONER: I think Mr. Scott wants an answer to the question. Could I help you by saying yes to that?

MR. LAMEK: If the question was addressed to you, sir, thank you very much.

THE COMMISSIONER: I think that is what is says. All that Mr. Lamek is saying is that the paper says that.

MR. SCOTT: Yes. I just keep forgetting that this is an examination; there must be a sign that the witness in the witness box agrees.

MR. LAMEK: Q. Dr. Rowe, I direct your attention to the notation on page 35 which I think reads:

"March 24, 1981, samples delivered by Mr. Barbour at 3:45, Sample 1



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small bowel contents Justin Cook;
Sample 2, gastric contents Justin
Cook; Sample 3, fluid from chest
Justin Cook."

And I ask you in light of that notation whether you
would infer as I would that the samples listed as
Nos. 3 through 8 on the following page and identified
as bowel, stomach and chest upon which digoxin assays
appear to have been conducted probably refers to the
samples from Cook? Would you draw that inference?

A. I don't think I can - I
don't understand this book.

Q. You have to be a bio-
chemist to understand this one, doctor.

MR. SCOTT: Excuse me, Mr. Commis-
sioner, the book is there.

THE COMMISSIONER: Yes.

MR. LAMEK: All right. That is
fair enough.

MR. SCOTT: Mr. Lamek should be
elected to the House of Commons. Even Madam Sauve
couldn't --

MR. LAMEK: Q. Let me see if
Dr. Rowe can answer this one. Is that your hand-
writing on the right-hand side of the page, Dr. Rowe?



JJ6

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A. Yes, it is.

3

Q. What does it say?

4

A. It says Dr. Rowe, Head

5

of Cardiology, HSC, in taking results of digoxin levels

6

on Cook, 22/3/81, Miller, 21/3/81, Pacsai, 13/3/81,
Estrella --

7

Q. 16 --

8

A. 16/1/81, and it has got

my signature. 14:30 hours 22/3.

9

Q. 81.

10

A. Yes.

11

Q. Now you see what I was

12

working up to, Mr. Scott.

13

Dr. Rowe, is that a note you left

for somebody or what is it?

14

A. I don't have any idea

15

what that is.

16

Q. It is your writing?

17

A. It is my writing, yes,

18

but what is it doing in the lab book?

19

Q. I rather hoped you might

20

tell me, Dr. Rowe.

21

You have no recollection of collect-

22

ing as the note appears to record the digoxin levels

on Cook, Miller, Estrella and Pacsai?

23

A. I don't have any recollection

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JJ7

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of that but I presume I must have been there because
it is my signature. But I don't know where that is.
Is that on the book?

Q. It is apparently taped
into the book.

A. Taped into the book?

Q. Yes.

A. It has got Dr. Costigan,
bellboy underneath that.

Q. You have no recollection
of writing that note?

A. It suggests that I may
have got the digoxin levels from the technicians and
they asked me to sign something. I don't recall.

Q. You have no recollection of
it? Do you have any recollection of why on March 22nd
you wanted these digoxin results in respect to these
four children?

A. I don't know whether it
was anything to do with -- was the 22nd on Sunday
or Saturday?

Q. The 22nd was Sunday. Yes,
I think it was a Sunday. Why on a Sunday were you
taking the digoxin results from those four children?

A. Maybe it was in connection



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JJ8 2 with the action that was going on on Sunday.

3 Q. What was going on on
4 Sunday?

5 A. Well, I think the police
6 came in on Sunday morning. I don't know whether I
7 got that for them or whether I got it for Dr. Carver
8 or something else. It looks like I went up specifical-
9 ly to the lab to get some results, and I wouldn't
10 have been in there on Sunday morning unless I was
under a lot of pressure to get something for somebody.

11 Q. The pressure couldn't
12 have been quite that great. It was 2:30 in the
13 afternoon, doctor. Do you recall being in the
Hospital on Sunday afternoon the 22nd of March?

14 A. I think I was, yes.

15 Q. Do you recall whether you
16 were there for any particular purpose?

17 A. I think we had a meeting.
18 I am not sure whether the police have information about
19 that. They might be able to establish that. I can't
20 remember the details of what went on that weekend in
great detail.

21 Q. You cannot now recall the
22 particular purpose for which you apparently took those
23 digoxin results?

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JJ9

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A. No.

Q. When did you first learn
of Justin Cook's death?

A. I think I was called
by Dr. Fowler.

Q. Early in the morning?

A. I think it must have been
early in the morning, yes.

Q. And what were you told
about the death at that time?

A. Just that there had been
another death and there was a good deal of concern.

Q. Did he tell you what the
particular cause for concern was?

A. Oh, I think it was related
to the events of the meeting the day before and the
possibility that there was more of the same trouble.

Q. The day before there had
been the meeting you told us about with the Coroners?

A. Yes.

Q. And following that meeting
on the evening before Dr. Fowler had called the
Coroner with news of Allana Miller's death?

A. I think if I have got
my -- on Saturday evening when the results of the



Rowe
dr.ex. (Lamek)

JJ10

1 digoxin were known --

2 Q. Yes.

3 A. I think then the Coroner -
4 that was known about eight o'clock or something, and
5 when the Coroner was available at about eleven or
6 so, that information was ^{relayed} ~~portrayed~~ to him.

7 Dr. Fowler and Dr. Carver were
8 really handling that situation, and they set about
9 a number of things which I presume were arrived at
10 in conjunction with Dr. Teperman.

11 Q. Yes.

12 A. And then I think that --
13 I am not exactly sure of the sequence of events the
14 next day. Dr. Fowler would be much more aware of
15 the details of that than I am because he was directly
16 involved, but I think that we started -- I think the
17 police came in that morning.

18 Q. All right. When Dr.
19 Fowler called you to tell you of the death of Justin
20 Cook I take it that at that time there was no informa-
21 tion as to digoxin level in that child?

22 A. I don't think so. I am
23 not sure.

24 Q. And therefore such concern
25 as there was, that was prompted by something other



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JJ11 2 than known digoxin levels at that point?

3 A. I think it was just the
4 fact of another death on the ward under the circum-
5 stances surrounding the last 48 hours or so.

6 Q. Cook's death of course
7 was reported to the Coroner?

8 A. Yes.

9 Q. When, Dr. Rowe?

10 A. I don't know when. Dr.
11 Fowler presumably did.

12 Q. Do you know whether the
13 digoxin levels in Justin Cook had been reported prior
14 to the reporting of that death to the Coroner?

15 A. I don't know.

16 Q. Now we have mentioned
17 earlier today that following the news of the digoxin
18 levels reported in the sample taken from Allana Miller,
19 digoxin was made a controlled drug.

20 Now can you tell us precisely
21 what happened in that regard on the evening that it
22 was discovered that Allana Miller's post mortem blood
23 had a high digoxin reading?

24 A. That is on the Saturday
25 evening?

Q. Yes. What happened? What

The digoxin levels for Allana Miller were available (and were reported by telephone to Dr. Rowe) by 8 pm.

WHY did it take until 10:25 to order all digoxin locked up? The standard digoxin order calls for administration b.i.d. at 9 am and 9 pm. They permitted unrestricted access to digoxin over the normal time for administration of doses — a time when, presumably, a nurse could most easily draw a substantial amount of the drug in the meds room without attracting my attention to herself!



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JJ12 2 did you do to make digoxin a controlled drug or
3 access to digoxin more difficult at that point in
4 time?

5 A. Well, I can only remember
6 the details of that because I happen to have a piece
7 of paper that has them on.

8 Q. Good.

9 A. Dr. Carver was
10 the person who initiated that with Dr. Fowler, and
11 the note says that at 2225 hours on Saturday, March
12 21st --

13 THE COMMISSIONER: 22 -- sorry?

14 THE WITNESS: 2225 hours on
15 Saturday, March 21st, there were five steps taken to
16 control digitalis.

17 The first step, that all digitalis
18 would become a controlled drug immediately and
19 treated as a narcotic, and all digitalis preparations
20 in the Hospital would be locked in the narcotics
21 cabinet.

22 The second point was that all
23 digitalis would be dispensed by either team leaders
24 or charge nurses with the usual check by a second
25 nurse, and with this check being confirmed in writing
and signed.

Long!



JJ13

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The third thing was that Dr. Costigan and Mountstephen - those are two associate residents - would do a check -- I'm sorry, Chief Resident and Associate Resident - would do a check of all crash carts for parenteral digitalis preparations;

And four, in the morning all digitalis inventory will be done in the Hospital and all digitalis will be returned to the pharmacy. New digitalis will then be dispensed from the pharmacy to the locked cabinets.



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2 And the fifth point was that all
3 crash cards ^{ts} will be checked daily for parent^{aral}
4 digitalis and the last comment on that note was that
5 Dr. Fowler has informed the coroner concerning the
6 findings of a digitalis level of 72 on Allana Miller.
7 A request has been made by way of Dr. Fowler for the
8 heart preparations of these children who died on 4A/B
9 to be examined for digitalis levels, extractions will be
attempted.

10 Q. Thank you. Now, Doctor, the
11 directive or ^{ukase} ~~new case~~, whatever it may be that you have
12 just read to us, is quoted in full as I remember it in
13 the Statement of Prima Facie Facts. I don't have to
14 ask you to provide that note to us. That was done at
10:25 on the Saturday evening.

15 A. Yes.

16 Q. And I take it it was effective
17 immediately.

18 A. Yes, I believe so.

19 Q. Had there been any discussion
20 on the Saturday afternoon of controlling access to
digoxin?

21 A. I can't remember that. Dr. Fowler
22 might, or even maybe the police or the coroner.

23 Q. You say the decision was
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2 initiated or arrived at by Drs. Carver and Fowler?

3 A. I think Dr. Carver was the
4 person who initiated it, but I may be wrong. That was
5 my understanding.

6 Q. You mean when you say initiated
7 this was Dr. Carver's suggestion?

8 A. Yes.

9 Q. Was it not something that had
10 occurred to any member of the cardiology staff prior
11 to Dr. Carver raising it?

12 A. No, I don't think so. Digitalis
13 is not a controlled drug in any other hospital in the
14 world as far as I know.

15 Q. Doctor, were you aware on *that*
16 Saturday of any other hospital in the world where there
17 was reason to suspect that a patient may have been
18 killed by a deliberate overdose of digoxin?

19 A. No.

20 Q. Upon learning of the digoxin
21 levels recorded in the ante mortem sample and in the
22 post mortem samples taken from Justin Cook, did you form
23 an opinion as to the cause of his death?

24 A. Yes.

25 Q. And that was what?

A. That he had had an overdose of



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digoxin.

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Q. Have you had any cause to
revise that impression since that time.

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A. No.

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Q. Doctor, of all the 36 deaths
that we have reviewed together over the past three
weeks, ~~and~~ I know that you have said that after March,
1981 you had to consider all of those deaths as possibly
having been caused by digoxin intoxication. Let me
ask you, of the 36, which do you now regard as most
likely to have been caused by digoxin intoxication.

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A. Well, I think that Cook
unquestionably is one that I think that had happened.
I think it is possible that a number of others that
where the evidence, and I use that knowing that I'm
not an expert in that area, it seems to me from the
information that I have, at least subject to further
discussion and debate by people who are experts in their
fields, I would put about 6 others in that category.

21

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Q. ^{Please} You tell us which 6 will you,
Doctor.

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A. Miller is one, Pacsai is
another, Inwood is another, Hines is another and
Estrella is another.

THE COMMISSIONER: That's only 5,



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Doctor?

THE WITNESS: Yes.

THE COMMISSIONER: I thought you
said 6.

THE WITNESS: Yes, there is one
patient that I think that we considered and that was
Valesquez.

MR. LAMEK: Valesquez. Dr.
Rowe, you have been patient through 9 days of this and
I recognize this is not a forum or a procedure you are
familiar with or necessarily feel comfortable with and
I hope you have not felt unduly restrained by the
format in the procedure. Is there anything that you
at this stage, without being confined by a question by
me, is there anything that you want to say about any
of the matters that we have discussed.

A. The only thing that I would
add to that is that I think I find now in reflection
that it is extremely difficult for us to say in the
event of a baby who dies that we can completely and
confidently exclude the possibility that any baby who
dies will not have had some sort of overdose.

We, as you know, have thought that
all these babies had clinical features and findings that
were supportive of the notion that they died from natural
causes.



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2 causes. I am very concerned that the situation
3 arises in the Children's Hospital where we will be
4 under a situation where we cannot say categorically
5 that a child died from natural causes and I'm not sure
6 what the solution of that dilemma is. But it is an
7 extremely unpleasant thing for everybody to be in:
8 nurses, doctors and parents.

9 Q. Dr. Rowe, ^{thank}~~that~~ you very much,
10 I have no further questions of you at this time.
11 I suspect that others may, but that at least is some
12 two weeks in the future.

13 Mr. Commissioner, perhaps it should
14 be made clear that when we resume the hearings on
15 Tuesday, August 16th, we will be in another place.
16 We will be in the main hearing room of the Ontario
17 Municipal Board on the 8th floor of 180 Dundas Street
18 West and I take it, Sir, that hearing will begin at
19 10:00 am?

20 THE COMMISSIONER: Yes, yes, 10:00 am
21 the 8th floor. I'm not too sure what facilities there
22 are going to be available. We're not going to get any
23 of the OMBs facilities but there may be others and
24 Mr. Miller is working on it. Perhaps towards the end
25 of the week after next you could see him about those
facilities.



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Yes, Mr. Shinehoft?

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MR. SHINEHOFT: Mr. Commissioner,

there is one matter that I would like to address to you and that is the question of the cross examination of this witness. There has been some reference to the Atlanta Report and I believe you said at one time that we are not sure whether you are going to permit counsel to cross examine this witness on the report.

THE COMMISSIONER: Yes. Yes, I must confess I hadn't thought that there were any restrictions. The problem is that the expurgated copy of the Atlanta Report is certainly the only one upon which cross examination may be made, but I don't frankly see any objection. I don't know if anyone has any objection to cross examination on the expurgated copy. I don't think there is a problem.

MR. SHINEHOFT: I just wanted to make it clear that we would not be precluded from asking Dr. Rowe questions that arise from the report itself.

THE COMMISSIONER: I hadn't thought that there would be any problem with respect to that.

MR. SHINEHOFT: Thank you, Mr. Commissioner.

THE COMMISSIONER: I will expect



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2 counsel to have a non expurgated copy to keep that from
3 the public record until such time as it is released,
4 but other than that... Yes, Mr. Strathy?

5 MR. STRATHY: May I raise another
6 matter?

7 THE COMMISSIONER: Yes.

8 MR. SCOTT: Mr. Commissioner, before
9 Mr. Strathy begins, perhaps Dr. Rowe can step down.
10 He doesn't have to watch all this.

11 THE COMMISSIONER: Yes.

12 --- witness withdraws.

13 MR. SCOTT: But I do understand
14 from that, that the expurgated version of the report is
15 now in the public domain?

16 THE COMMISSIONER: No, I don't
17 think it is in the public domain, but you are under
18 no restrictions as to what you do with it. I don't
19 think it is safe for the press, if it comes into their
20 hands, to publish anything, because it is not a yet
21 formal legal document, but as far as you are concerned,
22 you are not under any restrictions with your client.

23 MR. SCOTT: But, Mr. Commissioner,
24 if I am to go first, and I understand that's the order.

25 THE COMMISSIONER: Yes.

MR. SCOTT: And if I hear from these



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2 other counsel that they are going to ask about the
3 Atlanta Report, am I expected to - is that the time
4 when I ask about it?

5 THE COMMISSIONER: Yes. Yes, if
6 you want to tak about it.

7 MR. SCOTT: So, you are asking
8 me to put it in as an exhibit?

9 THE COMMISSIONER: No, I'm not
10 asking you to put it in as an exhibit.

11 MR. SCOTT: Then who is going to
12 put it in as an exhibit?

13 THE COMMISSIONER: Well, I don't
14 know that it ever has to be put in as an exhibit, but
15 you can use, as the basis for it, then if there is some -
16 I'll just have to consider whether it goes in as an
17 exhibit. When it goes in as an exhibit, unless I make
18 a special order, the expurgated copy then becomes a
19 public document.

20 MR. SCOTT: Well, I have said
21 before, and I submit now that it should be made a public
22 document, to have this business of reading to Dr. Rowe
23 snetences, all the counsel flipping over the pages
24 together ---

25 THE COMMISSIONER: Well, isn't this
a problem. You are not restricted in any way in your



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2 examination or in your cross examination, whichever
3 way you want to put it, on the expurgated copy of the
4 report, whether it becomes a public document or not
5 is something I'm not going to decide tonight, I will
6 decide that when the issue arises.

7 MR. SCOTT: Well, I will save those
8 questions for re-examination because I don't want to
9 be in the position of reading the report into the
10 record if you, Sir, aren't prepared to allow it to be
11 made an exhibit. I think that would be unfair to the
12 public.

13 THE COMMISSIONER: Well, who knows.
14 We may well make it an exhibit, I'm not that concerned
15 about the expurgated copy, but I think that those
16 were the terms upon which we issued it, so, I'm going
17 to keep that for the moment. It may well find itself
18 a public document 15 minutes after we start it.

19 Yes, now, Mr. Strathy?

20 MR. STRATHY: Just several matters
21 I would like to raise, Mr. Commissioner. If you would
22 rather I not raise it before we break.

23 THE COMMISSIONER: No, no, I think
24 it might be easier if some of this has something to do
25 with the preparation of cross examination, I should
probably deal with it now.



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2 MR. STRATHY: Well, the first
3 matter I want to raise is, last Thursday, a week from
4 today, just as we were closing for the day and I am
5 sure just starting to think about what we were going
6 to be doing on the weekend, Mr. Lamek mentioned to
7 Dr. Rowe a series of, I believe he referred to them
8 as medication errors occurring with respect to digoxin
in the summer of 1980.

9 MR. LAMEK: Yes.

10 MR. STRATHY: And at that time he
11 would be dealing with that in Dr. Rowe's evidence in
12 chief. I haven't noticed.

13 THE COMMISSIONER: Well, it was
14 dealt with.

15 MR. STRATHY: Well, there was one
16 that wasn't dealt with in the summer of 1980 and
17 I'm just simply saying that my view is that he should
be leading that evidence.

18 MR. LAMEK: Well, Mr. Commissioner,
19 Mr. Strathy is quite right. I had referred to a
20 series of errors which had arisen in rather a different
21 way and I confess as far as Dr. Rowe was concerned,
22 although, it had occurred to me to lead the evidence
23 from someone and indeed to be from the head nurse at
24 a later stage and I'm perfectly prepared at this point
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2 if it is appropriate, if Mr. Scott has no objection,
3 to circulating to counsel the document upon which
4 that information is based and perhaps we can call the
5 maker of the document at a later stage.

6 THE COMMISSIONER: Well, circulate
7 it then if you would to counsel and they will have
8 that and whether we want to put it in or not remains
9 to be seen.

10 MR. LAMEK: Fine.

11 MR..SCOTT: I'm quite content
12 that that should be circulated.

13 THE COMMISSIONER: Yes, all right.

14 MR. STRATHY: The only other matters
15 are procedural and I would just mention them, Mr.
16 Commissioner.

17 The first one relates to the
18 possibility about review and as soon as I say that,
19 I realize that it raises problems from the Hospital's
20 point of view and I don't think anybody wants to
21 make things more difficult for the Hospital, but
22 I simply raise that as a suggestion, that it might
23 assist all of us in understanding the evidence.

24 The other matter is the possibility
25 is some sort of form of productions of the documents.

Again I recognize your concerns
about counsel not becoming involved in a fishing



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2 expedition, but I think it may be possible to reduce
3 the fishing if there is some form of generalized
4 production of documents so that we know what
5 documents are available.

6 THE COMMISSIONER: Well, there
7 have been very few held back that I know of. Is
8 there anything that you've got up your sleeve,
9 Mr. Lamek, do you want to confess right now?

10 MR. LAMEK: I wish I had Mr.
11 Commissioner;

12 THE COMMISSIONER: Well, if you
13 know of a document. When we get up to 123 exhibits
14 and I confess to say that doesn't strike me as being
15 anywhere near the end, you can't say that we're
16 holding back too much.
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MR. STRATHY: That was not to suggest that Commission Counsel was engaged in holding back or that any other party was. I think the hospital has been very forthright.

It just seems to me, though, that if we do know what documents are there or what documents are coming, we can perhaps hone in on our questioning.

THE COMMISSIONER: Well, I cannot think of how much else you intend to produce, because even the parts that have been withheld such as the digoxin readings post mortem now seem to be all before us, but there may be -- this is on this part of the --

MR. LAMEK: On this part, no, nothing has been withheld at this stage, Mr. Commissioner. I can see obviously to be part of my obligation to decide what the evidence is going to be, and I certainly have no intention of giving an undertaking to provide documents to people that I have no intention of bringing into evidence.

But there is one other piece of documentary evidence or information that I am proposing to make available. Dr. Haestreiter will be called in the fairly near future, I trust, to give evidence as to his characterization of the various deaths, having reviewed the charts. He prepared written



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2 reports on each of the children that we are investi-
3 gating, and I propose to circulate those to Counsel
4 in advance of Dr. Haestreiter's arrival, the kind of
5 information that I mean I'll be putting it in written
6 form, but will certainly be coming early, and I think
7 Counsel should have that information ahead of time and
8 I am prepared to do that.

9 THE COMMISSIONER: Yes, all right.

10 MR. STRATHY: Well, again, I am not
11 simply referring to Commission Counsel, sir. I am
12 referring also to the hospital, for example.

13 THE COMMISSIONER: Well, the hospital,
14 I think I can speak for, Mr. Scott takes the position
15 that they are bringing forth everything that they
16 think is relevant and even a lot of things that they
17 do not think are relevant that you have asked for. If
18 you could just help us by saying what they are, what
19 you think is being withheld or what is not being
20 offered, we can always bring it up each time.

21 MR. STRATHY: I think that is the
22 whole problem that I am pointing to is that I do not
23 want to get involved in a fishing expedition thing --
24 what memoranda are there passing from Dr. X to Dr. Y
25 about this particular meeting.

THE COMMISSIONER: Would not your



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client know what documents there might be that have not been --

MR. STRATHY: I think that is most, with all respect, unlikely that she would, being a nurse. She is not likely to know --

THE COMMISSIONER: What goes on between doctors?

MR. STRATHY: She knows there are meetings, letters, memoranda, but as to specifics. It seems to me it would assist you, Mr. Commissioner, to know that the documents were being produced in some way that Counsel could examine them.

THE COMMISSIONER: Well, all right. I think what we will do is we will leave that with Mr. Scott and with Mr. Lamek, and if they want to make any comment on it at some time, they can do so. If you find that there is anything or think that there is anything, there is no reason why you cannot mention it.

MR. STRATHY: Well, I simply intended to raise it as something to think about.

THE COMMISSIONER: All right.

MR. PERCIVAL: I have one last measure of concern, Mr. Commissioner. After Mr. Scott and Mr. Ortved presumably examine or cross examine, where



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does the order go thereafter?

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THE COMMISSIONER: Well, in the ordinary course, we start with Mr. Bogart, follow with Mr. Strathy and go along from left to right, but skipping Mr. Scott and Mr. Ortved until the end, and then they have a chance to come in at the end. The same thing will happen, of course, when any of your clients are being examined.

MR. PERCIVAL: I understand.

THE COMMISSIONER: You will have first and last crack at that.

MR. PERCIVAL: That makes me feel better then. I do not have to worry about this until about October.

MR. BOGART: Just on that point, sir, I would be obliged to Mr. Scott and Mr. Ortved or Miss Chown if they could give us some estimate of how long their initial examination --

THE COMMISSIONER: Mr. Scott has said a day, I think.

MR. BOGART: Yes, at one point he did, sir. I am just wondering if he is --

THE COMMISSIONER: Are you still of that view? You are not bound by it.

MR. SCOTT: Yes, I think in view of



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the way the evidence has proceeded, it may indeed be shorter.

THE COMMISSIONER: Yes, all right.
Mr. Ortved, is he around?

MS. CHOWN: Mr. Commissioner, Mr. Ortved is not here today, and I am afraid I cannot give an estimate on his behalf, but it would be similar to that of Mr. Scott.

THE COMMISSIONER: Well, you may find yourself not able to commence on the first day, but then I would like you to be prepared to proceed if you have to. So on the first day, you will be next, unless someone else wants to go and you agree, go ahead of you, that is fine. But then it will be in the same general order, unless there is some agreement to the contrary.

MR. BOGART: Thank you, sir.

THE COMMISSIONER: Anything else?

Well then, until whatever that date is, it is the Tuesday after the Tuesday after the Tuesday.
---Whereupon the hearing adjourned at 5.05 p.m. until Tuesday, August 16th, 1983.

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